

Pam
Mest. mick
India

Murdosh. 1712

THE HEALTH OF CHILDREN.

"MY CHILDREN," PART I.

INCLUDES THE MANAGEMENT OF INFANCY; GENERAL DIRECTIONS
ABOUT THE PRESERVATION OF HEALTH; THE DISEASES
OF CHILDREN; TREATMENT OF ACCIDENTS; AND
SHORT NOTICES OF SOME OF THE
MOST USEFUL MEDICINES.

COMPILED FROM THE WORKS OF BIRCH, MOORE,
WARING, GREEN, CHEVERS, CHAVASSE,
WEST, NIGHTINGALE, AND OTHERS.

FOURTH EDITION, 3,000—TOTAL COPIES, 9,000.

M A D R A S :

✓ THE CHRISTIAN LITERATURE SOCIETY FOR INDIA.

S. P. C. K. PRESS, VEPERY.

1895.

Price, 2 Annas. Post-free, 2½ Annas.



THE
HEALTH OF CHILDREN.

“MY CHILDREN,” PART I.

CONCLUDES THE MANAGEMENT OF INFANCY; GENERAL DIRECTIONS ABOUT THE
PRESERVATION OF HEALTH; THE DISEASES OF CHILDREN; TREATMENT
OF ACCIDENTS; AND SHORT NOTICES OF SOME OF THE
MOST USEFUL MEDICINES.

COMPILED FROM THE WORKS OF BIRCH, MOORE, WARING, GREEN,
CHEEVERS, CHAVASSE, WEST, NIGHTINGALE, AND OTHERS.

FOURTH EDITION, 3,000—TOTAL COPIES 9,000.

M A D R A S :

THE CHRISTIAN LITERATURE SOCIETY FOR INDIA.

S. P. C. K. PRESS, VEPERY.

1895.

PREFATORY NOTE.

TO THE FIRST EDITION.



This little treatise is intended to assist parents in bringing up their children to be strong and healthy. The chief aim is to *prevent* sickness—not to *cure* it.

Directions are given with regard to the treatment of the most common diseases among children. Except in the case of slight ailments, these are intended only for persons living at out-stations, where no competent medical man is available. It is very foolish for parents to doctor their children where educated physicians are within reach.

The compiler is chiefly indebted to the following valuable works, although several others have been consulted :

Birch, *Management and Medical Treatment of Children in India*. Calcutta, Thacker, Spink & Co., Rs. 7.

Moore, *Family Medicine for India*. London, Churchill. 10s.

Waring, *Bazaar Medicines*, London, Churchill. 5s.

Waring, *Pharmacopœa of India*. London, Allen. 6s.

The first two treatises have special reference to Europeans, but they will yield useful hints to Indian parents.

The first edition is largely tentative. Suggestions are invited from friends for the improvement of future issues. Cautions are especially needed against injurious Native practices.

The treatment of **CHILDBIRTH** is noticed in a small pamphlet, intended to precede this. Price, 1 Anna.

The compiler would express his warm thanks to Professor Branfoot, of the Madras Medical College, to the Rev. Dr. Chester, of the American Madura Mission, and to Dr. S. Pulney Andy, F. L. S., M. R. E. S. Eng., for kindly looking over the proof-sheets, and for favouring him with some useful suggestions.

PART II. treats of the **TRAINING OF CHILDREN.**

J. MURDOCH.

MADRAS, }
September, 1887. }

CONTENTS.



INTRODUCTION.

	<i>Page</i>
Infant Mortality	2

MANAGEMENT OF INFANCY.

The Mother	6
Feeding the Baby, etc.	8
Teething	15
Weaning	17
Infantile Ailments	18

MANAGEMENT OF OLDER CHILDREN.

PRESERVATION OF HEALTH, General Directions ...	22
--	----

DISEASES OF CHILDREN.

Uses of Pain and Sickness	34
Disease in India	35
Germ Theory of Disease	36
Signs of Sickness	38
Care of the Sick	39

Fevers.

Fevers generally	43
1. Simple Continued Fever	45
2. Intermittent Fever or Ague	46
Preservatives from Fever... ..	50
3. Remittent Fever	52
4. Typhoid or Enteric Fever	53

Eruptive Fevers.

1. Measles	54
2. Scarlet Fever or Scarlatina	55
3. Small-Pox	55
4. Chicken-Pox	57

Diseases of the Throat and Chest.

Croup	57
Cold	58
Cough	59
Bronchitis	59
Hooping Cough	60

	<i>Page</i>
Diseases of the Bowels.	
Constipation	61
Diarrhœa	61
Dysentery	63
Cholera	63
Worms	70
Miscellaneous.	
Guinea Worm	72
Itch	72
Boils	73
Headache	75
Sunstroke	75
Fainting	76
Sore Eyes	77
The Ear	78
Toothache	79
ACCIDENTS.	
General Directions	79
Bleeding	79
Bruises	80
Burns and Scalds	80
Choking	81
Dislocations	81
Drowning	81
Fractures	82
Poisons	82
Snake Bites, &c.	83
Sprains	84
Wounds	84
MEDICINES AND PREPARATIONS.	
Medical Weights and Measures	85
Proportionate Doses	86
Medicines	86
<hr/>	
Duty of Educated Men with regard to Sanitation	93
Spiritual Health	94
Prayer during Pestilence	94
Prayer for a Sick Child	95
Index	96

THE HEALTH OF CHILDREN.



INTRODUCTION.

Joy at the Birth of a Child.—It is one of the happiest days in married life when the husband and wife first receive the new names of father and mother. They are drawn more closely together themselves; they have a new source of pleasure; a new object to live for. The feelings of thoughtful parents are expressed in the following simple lines:—

Another little waye
Upon the sea of life;
Another soul to save,
Amid its toil and strife.

Two more little feet
To walk the dusty road;
To choose where two paths meet,—
The narrow and the broad.

Two more little hands
To work for good or ill;
Two more little eyes,
Another little will.

Another heart to love,
Receiving love again;
And so the baby came,
A thing of joy and pain.

Infant Mortality.—It is a sad fact that joy at the birth of an infant is sometimes soon followed by sorrow for its loss. About half the Muhammadan children born in Calcutta die within the first year, and the half of them within 15 days of birth. This is an extreme case; but everywhere the deaths are far more numerous than they ought to be. Among Christians in Calcutta the mortality the first year is about one in five. In England it is about one in eight. The deaths are much less numerous the second year, and after that they quickly diminish. Still, it is true that about one half who are born die under the age of five years. The life of an infant may be compared to the flame of a very small lamp, easily blown out. It gradually becomes stronger; but at first especially, the greatest care is necessary.

Imaginary Causes of Infant Mortality.—Though Indian parents, as a rule, mourn greatly over the death of their children, many of them do not understand why they are taken away.

Some ascribe it to *fate*; it was fixed that they should then die. Hindus think that it is written on their heads. There is no such thing as fate.

Sins in a former birth are one explanation of a short life in the present one; but there is no proof that we ever existed before. Who remembers any thing of the kind?

The anger of demons is another reason which is given. Due offerings were not made to secure their favour. There are no such beings. A Persian proverb says, "The proper devil of mankind is man." It is from the ignorance and misconduct of ourselves or our fellow-men, that we chiefly suffer.

Muhammadans ascribe death to the will of God, and consider resignation their only duty. Without doubt it is God's will that water should drown; but it would be very wrong for a mother to throw her child into a tank, and say that the child died by the will of God. No more ought this to be said in many other cases.

God, it is true, is the Lord of life and death. It is

very right to feel our constant dependence upon Him, and to ask His blessing. On the other hand, it would be mockery for a mother to ask God to take care of her child while she was giving it poison.

Real Causes of Infant Mortality.—Under native rule, Rajputs sometimes destroyed their female infants as soon as they were born. A small piece of opium was sufficient. Numbers of children are as surely killed by their parents as those daughters of the Rajputs. The points of difference are that in the former case, the parents do not wish to murder their children, and that they are slowly poisoned instead of being put to death at once. **KILLED BY IGNORANCE** must be the true verdict. Children are made to be healthy and live long, and if they sicken or die, it is almost always through bad management.

Knowledge Needed.—Love is not enough on the part of parents. This they already possess. Knowledge is also required. Suppose a mother gives poison to a child thinking it to be wholesome, it will kill it just as surely as if she knew its real nature. Most parents in this country are guided by ignorant old women who cannot even read. Hence the great mortality. The following directions have been compiled from books published by learned physicians, who have given their lives to the study of the diseases of children. By attention to them, children may be saved from much sickness, and many lives may be preserved.

Only strong, healthy parents can be expected to have strong, healthy children, able to withstand the diseases of infancy. There are two customs among the Hindus which are very hurtful. Early marriages tend to produce feeble children. Intermarriage, confined to a few families, has the same effect. Apart from the state of the parents, the chief causes of infant mortality are the following:—

1. **Impure Air.**—Air is what is most needed to sustain life. We can survive several days without food, but the strongest man will die in a few minutes

without air. We not only need air, but the air must be *pure*. There are many kinds of poison in the world, but perhaps the poison which kills most people is *bad air*.

We are always breathing, but the air we give out differs much from the air we take in. It is dirty, like water after washing out an unclean pot. It takes away poisonous matter which would cause sickness and death if left in the body. Most Hindus refuse to drink water from a vessel which another man has touched with his lips; but when they crowd together in close rooms, they drink in again and again the bad air and foul matter which come out of each other's bodies.

The frightful mortality among Muhammadan children in Calcutta has been mentioned. They die largely from lock-jaw within a few days from birth. This disease is almost unknown among European infants in the same city. Twice as many of the Muhammadan mothers die as among Christians. The women, at confinement, are shut up in small rooms which have all openings carefully closed; a pan of charcoal is kept constantly burning; while female relations and friends crowd around. Mother and child are poisoned by the foul air. When the children are older, and spend much of their time in the open air, the number of deaths becomes very much less. Fresh air is the breath of life.

2. *Impure Water*.—The greater part of our body consists of water. The water we drink passes into the blood, and thus goes to every part of the body. If the water is bad, our health must suffer. Pure water is as needful as pure air.

Great carelessness is often shown about keeping tanks clean. People bathe in them, rinse their mouths and spit into them, wash their clothes and cooking pots in them, clean themselves in them after using the tank as a latrine; cattle and swine lie in them. Yet water is taken from them for drinking and cooking.

The water in wells is often equally bad. Water

from above, in many cases, is allowed to run into them. Mud and the droppings of cattle thus find their way into the well. Fever is often caused by decaying matter in water. Impurities from privies are especially injurious. Some of the worst kinds of sickness are caused by drinking water containing putrid matter from the bowels of people.

Drinking water should be bright and clear, and without either taste or smell.

Parents for their own sakes and for their children, should endeavour to have pure water.

3. *Improper Food.*—This is also a frequent cause of mortality. The stomachs of children are very delicate, and easily hurt. God has provided the most suitable food for them in the mother's milk. Until they are about three years of age, they should not be allowed to taste strong, highly seasoned food. Parents often give their young children a share of what they are taking themselves, it may be hot curries, salt fish, or other articles equally indigestible. Unripe fruit is very injurious. Further remarks will be made on this subject under another head.

4. *Want of Cleanliness.*—FILTH IS THE MOTHER OF SICKNESS. In one form or another, she is the true *Mariamman*, Mother of Death. Its hurtful effects in connection with air and water have already been noticed. The bodies and clothes of children should be kept clean. Houses should be whitewashed twice a year. Plantain skins and other refuse should never be dropped near the house. Hollows where water gathers should be filled up. Houses should not be used as a stable for cattle or goats. All filth should be taken to a distance, and covered with dry earth.

Notice carefully any bad smells. They generally come from rotting substances and bring sickness. Follow up any bad smell in the house until you find out where it comes from. Look well to all drains and see that they are not choked by decaying matter. Clear them frequently with plenty of water.

In opposition to the foregoing causes of mortality, there should be

1. PURE AIR. 2. GOOD WATER. 3. SUITABLE FOOD.
4. CLEANLINESS.

These are essential to have strong, healthy children, and such children are likely to grow up strong and healthy men and women.

Need of Physicians.—The object of this little book is not to show parents how to treat diseases in their children and enable them to dispense with doctors. This would do more harm than good. The aim is rather to point out how health may be preserved, and “Prevention is better than cure.” Sometimes, however, immediate action is necessary, as in convulsions, and a doctor may live at some distance. Parents may also reside at out-stations where there is no doctor available. Such are obliged to do the best they can themselves, and to them this little treatise may be of some help. Except, however, in the case of slight ailments, a physician, if possible, should be called in at the beginning. Disease may often be checked at the commencement, whereas, if allowed to go on, cure may be difficult or even impossible. Even in apparently slight ailments there may be danger. Some serious diseases begin with symptoms that are thought unimportant.

Directions in detail will now be given with regard to the health of children.

MANAGEMENT OF INFANCY.

INFANCY is supposed to include the first two years ; CHILDHOOD from two to eight years of age.

THE MOTHER.

In the little treatise on *Childbirth* the care necessary on the part of the expectant mother during pregnancy has been explained. It is equally needful after delivery.

A healthy mother is required to nourish a healthy child.

The requisites to health have already been mentioned.

The first thing is a sufficient supply of pure air. Many of the women of India suffer greatly from the want of this. Their rooms are often small, without windows, and in courts where the air cannot circulate freely. The case of what are called *purda nasheen* women is especially to be pitied. The Hindus probably copied the practice from the Muhammadans. It may be necessary among the latter from their facility of divorce, but Hindus should revert to their ancient liberty. It is maintained at present only by foolish pride and false modesty. Impure air is the chief reason why so many Muhammadan women die in childbirth and from consumption ; and so long as this state of things continues, the same result must follow.

While the room in which the mother lives should be well ventilated, it would be of great benefit both to herself and her infant to go out with it for some time every day into the open air, when the weather permitted. If she cannot go outside, at least let her take the child into the courtyard.

Pure water is another essential. The mother's milk consists chiefly of water, and its quality will affect the infant for good or evil.

The food of the mother should be nourishing, but not too rich. If it can be obtained, she should have plenty of good milk. Beer and wine should be avoided.

Cleanliness about the house and compound is important. No rubbish should be left about. There should be no bad smells. Anything causing them should at once be removed.

An idle life is not good for nursing women. Gentle exercise is useful. Household duties will furnish this to some extent ; but, as already mentioned, a walk in the open air should be added, if practicable.

Mothers should be kept free from care and anxiety and should be encouraged to be cheerful and happy.

The impressions they make on the child are often lifelong. Suckling a child after sudden fright or a fit of passion has been known to endanger its life.

FEEDING THE BABY.

Nothing is more important in the bringing up of infants than the careful management of their food. Carelessness or errors in this respect cause a large proportion of their illnesses and deaths.

Suckling by the Mother.—When the mother has had a little rest after the birth of the child, it should be put to her breast. Ignorant people consider the first milk bad and do not give it. On the contrary, the mother's first milk both nourishes the child and clears its bowels. It is far better than any medicine: nothing else should be given. If the milk is delayed, a little cow's milk, mixed with twice the quantity of warm water, may be given till it appears.

The child should be placed to each breast in turn. It should not receive its nourishment lying flat. The upper part of the body should be raised. This helps the milk to flow down into its stomach, and the vomiting of milk is less frequent.

A young infant may be put to the breast every second hour during the day, and every third hour at night. The time between meals should be gradually lengthened. The interval allows the milk to digest. During the night the child does not need to be fed so often. After a time it should be suckled only late at night and early in the morning, but not during the night. Let the mother keep to regular times, and the baby will get used to them.

It is bad for mother and child to give the infant the breast simply because it cries. A baby's cry does not always mean, "I am hungry;" it may mean, "I have had too much," and then feeding it will only make it worse. A baby's cry may also mean, "I am hot," "I am cold," "Something hurts me."

Some mothers think that cramming with a great

deal of food makes babies strong ; but on the contrary it only weakens them. It causes indigestion, vomiting, wind, diarrhœa, and has killed thousands.

As a rule, when the baby ceases to suck it should be removed from the breast. It shows that it has had enough. Sometimes, however, it may arise from wind.

If the mother has not enough milk to nourish the child, some cow's milk may also be given, especially at night.

Every mother, unless in bad health, should nurse her child. This is good for herself as well as for the infant. It is health to both.

Wet Nurse.—If the mother cannot suckle her child, a good wet nurse should be obtained if possible. As the milk changes to some extent, the child of the wet nurse should be about the same age as that of the child given to her. Care should be taken that she is in good health and has a sufficient supply of milk. Her skin should be free from eruptions, her tongue clean, and her breasts firm and plump, not hanging down loosely. The monthly courses should not have returned.

The remarks about the health of the mother apply to the wet nurse. She is apt to be overfed and to lead too idle a life.

Hand-feeding.—If neither of the foregoing is practicable, this is the only course left. But the proportion of deaths among children reared in this way is far greater than among children who are suckled. Even a little human milk is a great advantage.

One part of pure cow's milk and two parts of warm water may be given the first month ; for the second and third months, equal parts of milk and water, during the fourth month two parts of milk and one of water. After the fourth month pure milk may be used. This may be too strong in some cases, and the proportion of water may be greater.

If possible, the milk should be new and from *one* healthy cow. Bad water is sometimes mixed with

milk or it may have been drunk by the cow herself. Boiling the milk is a safeguard. As soon as it boils, it should be taken off the fire.

Glass feeding-bottles can be obtained in large towns. The simplest are the best. Those with tubes are to be avoided as it is difficult to clean them. The bottle should be emptied each time it is used and thoroughly cleaned. The nipple also should be taken off, washed well, and dried with a clean cloth. If they are the least dirty, they make the milk sour, and sour milk makes a baby troubled with wind, colic, and other bad things.

Sucking from a bottle is better than feeding from a spoon. It brings into the mouth the saliva which mixes with the food, and makes it digest better. The child should be held in the same way as the mother would hold it when giving the breast.

Milk alone should form the diet until the time arrives for giving other food, as described under "Weaning." Much of the mortality from hand-feeding arises from the use of arrowroot and other kinds of food which contain no proper nourishment.

Children should never be allowed any solid food till they have cut their teeth.

The infant should never get the empty bottle to suck to keep it quiet. It causes pain in the stomach, wind, and diarrhoea.

CLEANLY HABITS.

Even a young child may be taught to acquire regular natural habits. An infant of three months old and upwards ought to be held out at least a dozen times during the 24 hours. A child often cries because it is wet and uncomfortable. Cleanly habits are pleasant both to the mother and infant. In course of time the child will give warning, and cry to be relieved. It should be wiped after each motion.

When the child is a little older, a small chair, with a hole in it, may be used.

WASHING AND BATHING.

The skin is covered with innumerable very small drains, through which waste matter escapes which would be hurtful if kept within the body. Dirt chokes these little drains. To keep a baby's skin in perfect health, it might to be washed all over at least once (and better twice) in the 24 hours.

The water should be tepid or slightly warm. Cold water gives too great a shock, but hot water is also injurious. The hand can bear more heat than the other parts of the body. The warmth of the water is best tested by putting the elbow in it.

The head should be wetted (but not dried) before putting the child in the bath. Then with a piece of soft cloth, well wetted, cleanse his whole body, particularly his armpits and between his thighs. Next pour water over all his body, especially the back. This will be strengthening to the child. The skin must afterwards be well dried with soft towels. Care should be taken not to hurt the tender skin by rubbing. The ears and the parts between the thighs should be well dried with a soft cloth.

A cold wind is specially felt by a person bathing. It is particularly to be guarded against in the case of an infant. Draughts, at all times, are to be avoided.

SLEEPING.

At first a baby sleeps nearly the whole day except when actually taking food. By degrees its waking hours increase, and it is then desirable to accustom it to sleep, as well as to eat, at regular times. It should be trained to take its longest sleeps at night. At the age of six months, it will require three sleeps in the day, but the earlier and later may gradually be shortened. The mid-day sleep should be continued till the child is three years old.

All plans of causing sleep are bad. The infant should not be "hushed" to sleep by gentle move-

ments and soft sounds. If a child is from the first laid down to sleep without further attention, it will fall asleep just as readily and easily as with any amount of assistance. If, however, the habit is formed of walking about with it, &c., when this is not done the baby will cry and fret, perhaps losing half its sleep.

It is safer and healthier for an infant to sleep on a little cot of its own than with its mother or nurse. It gets a better supply of pure air not having to breathe the bad air which comes from its mother or nurse. Its head should not be covered so that it cannot breathe freely. The mouth and nose should be quite free.

Soothing syrups of all kinds *should never be given* to children to make them sleep. They contain opium. The child sleeps, but it is a dangerous kind of sleep, always hurtful, occasionally ending in death. Ayahs sometimes give opium to children that they may not give trouble; poor women who have to go out during the day, sometimes adopt the same plan, that their children may lie quiet till their return. But the practice is strongly to be condemned.

The child should not be disturbed by noises when asleep; it should be awaked gently and not suddenly. Its eyes should not be exposed to a sudden glare of light.

DRESS.

The clothing should be light, warm, and soft. It should be sufficiently loose and short to permit the free play of the child's limbs. Tightness of dress anywhere is bad. It hinders free breathing and makes the child uncomfortable. The use of pins should be avoided.

Children bear cold less than grown-up people. Except in very hot weather, their bodies should be covered, with the exception of the head.

Cotton is a good material next the skin. In cold weather, especially at night and during the rains, woollen clothing is desirable.

The clothing at night should be different from that worn during the day.

The clothing should always be kept clean, so that it never has a bad smell, nor shows spots of dirt. Pillows are often neglected in this respect. They should be covered, and the cases washed regularly.

VACCINATION.

Small-pox is one of the most loathsome and fatal diseases. There is an Indian proverb that a mother can never say she has a son till he has had small-pox. It is wrongly attributed in the north to Sitala Mata and in the south to Mariamman, who are supposed to scatter in sport the seed of the disease. These dreaded goddesses have no existence. They neither cause nor cure small-pox. People need not be afraid of their anger, and offerings to them are worthless.

The great safeguard against small-pox is vaccination, discovered by an English doctor about a century ago. The word comes from the Latin *vacca*, a cow. The matter used was first got from a cow, and people are still sometimes vaccinated from cows.

From want of care, ignorant persons think vaccination useless. Sometimes the proper matter has not been employed, or the little boils have been broken. If rightly done, very few persons vaccinated take small-pox, and that generally in mild form.

Four punctures in the skin are desirable, and for several days they should be protected from rubbing. Nothing whatever should be applied to them. There may be slight fever for a short time, but medicine is seldom necessary. If the bowels are disordered, perhaps half a tea-spoonful of castor oil may be given on the fifth day. About the tenth day, the pocks burst, and the child is soon quite well again.

Infants are best vaccinated before they are three months old. They do not suffer so much, and they cannot scratch the pocks, the chief thing to be

guarded against. Besides, it is an advantage to have vaccination over before teething begins.

If a sore has been formed on the arm from the pock being scratched, keep it clean and apply a little ointment or butter. It will soon heal.

Except when there is immediate danger from small-pox, children should be vaccinated only when they are in good health.

Vaccination should be repeated after puberty. Thus almost perfect protection will be secured.

AIRING.

A baby is like a plant—it cannot grow strong without plenty of out-door air and light.

Besides having plenty of fresh air in the house, an infant should be taken out every day, when the weather permits, morning and evening. This may be done after it is a fortnight old, if properly clothed. It should be protected from the rays of the sun, and should not remain out after sunset.

The ayah should not sit down and talk with her friends, for her motion in walking is exercise to the child. It should be changed from the one arm to the other every ten minutes.

EXERCISE.

Change of position and gentle movements are necessary for health. Sometimes the child should be laid down so that it may move its limbs freely. A baby should not be constantly in its mother's arms, for it only does it harm and gives the mother much needless trouble.

Gentle dandling is pleasant and beneficial, but violent movements are to be avoided. A child should not be dragged or lifted by its arms; they may easily be put out of joint. Children should not be taught to walk. Their bones are soft, and if made to stand or walk too soon their legs become bent, and their back may be deformed.

The best way to teach a child to walk is to let it teach itself. It will first learn to crawl, a highly useful exercise. Next it will try to lift itself upon its feet by the help of a chair. Then it will try to stand alone, and to walk with the help of anything near it. After many trials it will at last, first fearfully, then proudly, walk alone.

Children ought not to be still ; they should be allowed to shout and laugh as loudly as they can. This strengthens their lungs, and is a valuable exercise.

TEETHING.

A child is born toothless ; but it has hidden in the jaw the seeds of two sets of teeth. The first are small and drop out ; the second are larger and permanent.

The first set consists of twenty. They are usually cut in pairs, those of the lower jaw generally preceding the upper ones. The first appear about the sixth month and the last about the thirtieth month ; but the time varies greatly.

Before the teeth come out, there is an increased flow of saliva, with swelling and heat of the gums. The child often thrusts its fingers or anything within its grasp into its mouth. Its thirst is increased, and it takes the breast more frequently though for shorter times than usual. It is fretful and restless ; a slight tendency to vomiting and looseness of bowels are not uncommon.

When a child is cutting its teeth, it should be much in the open air and have plenty of exercise. It should not be overfed ; but it should be allowed to drink water as often as it pleases, a little at a time. There is nothing so good to cool the hot little mouth and gums. The bowels should not be confined ; but, on the other hand, continued diarrhoea is to be avoided. The mother should attend carefully to her own health and diet.

No hard substance should be given to a child to bite while teething. It hardens the gums and sometimes breaks the points of the teeth. A piece of India

rubber is much better. But the child's thumb is the most convenient and best gumstick. To suck it is a great relief to a child. The custom, however, should be broken off when no longer necessary. This may be done by smearing it with some bitter substance.

Rubbing the gums gently with the finger affords some relief.

When the gums are very red, hot, and swollen, they should be slightly cut by a doctor. It is not very painful. The infant that before was crying will often smile afterwards.

In difficult teething the child should have plenty of fresh air. It should not have too much food, and only milk. Things are made worse by feeding it when it cries. Sponging the infant's head with cold water, night and morning, will be of great benefit. The head should be kept cool.

Convulsions sometimes take place during difficult teething. The muscles of the face twitch, the head and neck are drawn backward, the limbs are violently bent and stretched, the eyes stare and are rolled about. This may last for a few minutes, or, with intervals, for some hours.

The child should at once be put in a bath as hot as the elbow can bear easily. The head should be covered with a piece of cloth, wet with cold water. Sprinkling cold water on the child's face while in the bath is also useful. During convulsions the child is insensible and does not feel pain. When over, perfect quiet should be observed, and sleep encouraged. Till sleep is procured, there is a liability to relapse. Some castor oil may afterwards be given.

Eruptions, or breakings out, about the ears, face, and various parts of the body often appear during the first teething. In general they should be let alone, being rather useful than otherwise, preventing more serious complaints.

As already mentioned, plenty of fresh air is of great importance. About twice as many children die in towns during teething as in the country.

WEANING.

The time when a child should be weaned depends partly on the mother, partly on the child. If the mother's health is delicate, the child may be weaned by the ninth month or even earlier. If, on the other hand, the mother is in good health and the child feeble, the nursing may be prolonged for a few months. It should not be effected while the child is suffering from teething. The non-appearance of the teeth is also a sign of delay. But, as a general rule, it should take place not later than the twelfth month. After that the mother's milk becomes poor in quality, and unfit to nourish the child.

The child should not be weaned suddenly, but by degrees. It should gradually be accustomed to other food than its mother's milk. When the child is seven months old it may get twice a day some good cow's milk mixed with warm water. When the child gets older, less water may be put in the milk, and it may be thickened with some well boiled *wheat* flour. As already mentioned, arrowroot does not afford proper nourishment. It should not be used. Kanji may also be given at times.

The mother should at first abstain from nursing the child at night, and after a time she need suckle her child only twice a day morning and evening. The demand for the milk being lessened, the supply will decrease in proportion. If the child refuse other food than that of the breast, let it get hungry, and it will yield.

Suji, rice, and plain bread are all wholesome, but till a child is 18 months old milk should form a large proportion of its food. Sweetmeats, curry, highly spiced food, and unripe fruit are bad for young children. Many children die because their parents give them some of their own food. Diarrhœa and other troubles are the result. It would be just as wise to set infants to do grown-up people's work as to give them grown-up people's food. Tea and

coffee are not good for children, and any intoxicating liquor is still worse.

INFANTILE AILMENTS.

Under this head only a few minor complaints will be noticed. Already some directions have been given. The diseases of children will be treated at greater length under another head.

Medicines.—These should be given as seldom as possible. Nature herself chiefly effects a cure. If something gets into the eye, tears begin to flow to wash it away; if we eat anything unwholesome, it may be vomited or the bowels may try to get rid of it. Our great aim should be to remove the cause which hinders a cure.

Of all medicines to move the bowels, castor oil is the safest; but it should not be given if it can be avoided. Often a change of food will effect what is required without medicine. Few things are more weakening than dosing a child with medicine.

Some of the medicines prescribed by ignorant Native doctors are dangerous; many of them are useless.

Diarrhœa.—Looseness of bowels is one of the most common complaints of young children and the most fatal. If continued, the infant becomes weaker and weaker until at last it is taken away. It should receive careful attention.

A child should have from three to six motions a day. The colour should be of an orange yellow, the consistency should be that of thick kanji, and there should be little smell. If the infant have double the latter number of motions; if they are watery, slimy, greenish or curdled; if they have a strong disagreeable smell; if the child be sick, cross and restless; it has diarrhœa.

The causes of looseness of bowels are improper

food, over-feeding, teething, cold, &c. It may also be occasioned by the bad health of the mother or by her eating unsuitable food. These causes ought to be remedied, or medicine to the infant will be of little avail.

A slight looseness for two or three days need not be interfered with. It is perhaps some indigestible food that is being worked off or an effort to lessen the irritation of the gums. If not soon relieved, half a tea-spoonful of castor oil may be given. A warm bandage round the belly is very useful, especially at night or when the weather is cold. If the child is at the breast, it ought, for a few days, to be kept *entirely* to it, and the mother should be most particular about her own diet.

If the diarrhœa continue, medical aid should be sought.

Constipation.—This is the opposite of diarrhœa. It is not so common nor so dangerous; but, if continued, it is hurtful. The motions are fewer than usual, and sometimes consist of hard white lumps.

In infants it is often caused by the milk of the mother, who should be careful about her food, and take more exercise. Or the child may have been given other food too soon or badly prepared.

Regularity in relieving the bowels is a great safeguard against constipation. Even infants, as already explained, may be trained to this.

The use of aperient medicine should be avoided. If once begun, it is apt to be continued; it loses its effect, and requires to be made stronger and stronger.

Gently rubbing the belly is useful. Ayahs sometimes insert the pawn stalk up the anus of young children to relieve constipation. A better and safer plan is to cut a piece of white soap round and pointed, about the thickness of a lead pencil, and about two inches in length. This should be dipped in a little warm jinjili oil, and gently put up the bowel, allowing a little to remain in view. It must then be left alone. In a minute or two, it will be forced out and the bowels relieved.

Gripping and Wind.—When an infant screams and draws up its legs, and is free from fever, it is probably griped. The stomach is usually full and hard—possibly there may be vomiting and a greenish motion or two may be passed.

Flatulency, or wind, is caused by indigestion. The infant that is constantly at the breast will always suffer more or less in this way. Sufficient time is not allowed between meals, and the milk passes into the bowels undigested. Improper food has the same effect. The gases given out stretch the bowel and give pain.

The great object should be to remove the cause—the bad quality of the milk, over-feeding, or other food than the mother's milk. A tea-spoonful, or rather more, of dill water,* sweetened with a little sugar, will often give relief for a time. Rubbing some warm jinjili oil for quarter of an hour over the bowels is useful. A very simple remedy is to turn the child over on its belly that it may press against the mother's lap. A warm bath sometimes gives immediate relief. If caused by some hurtful matter in the bowels, a little castor oil is the best remedy.

Convulsions.—These have already been noticed under teething, one of the most common causes. They may also arise from improper food, indigestion, worms, flatulency, fright, or so forth.

The treatment in most cases is the same. In fever convulsions, due to heat of the body, the child should be placed in cold water up to its neck and cold water poured on its head. This, however, requires caution, and ought to be done only by a physician. Further directions are given under fever.

A purgative should generally follow convulsions, after some rest has been obtained.

When the cause of convulsions has been ascertained, precautions should be taken during the remainder of childhood to prevent return.

Vomiting.—This is very common in infants. It

* See Appendix on Medicines. Omum water has the same effect, and is more readily procurable.

usually means that they have taken too much milk, and throw out what is unnecessary.

Continued attacks of vomiting are serious. The child becomes thin, feeble, and cross. Improper food and want of pure air are some of the chief causes.

Attend carefully to the directions about food. Give it cold and in small quantities at a time. The belly should be gently rubbed with mustard oil. Rubbing oil over the whole body will give comfort, and encourage sleep.

Thrush.—This is caused by a small plant which appears as little white patches within the mouth. Unsuitable food is the chief cause. This should receive attention. After each meal the mouth should be washed out with a little warm water. Touch the white patches with a mixture of borax* and honey. It should be applied by means of the finger twice or thrice daily.

Wasting.—Sometimes an infant does not thrive. It becomes thin; it whines, suffers from griping, and perhaps from diarrhoea and vomiting.

It is generally caused by something being wrong with the quantity or quality of the food. The infant should have fresh air at night, and be much in the open air during the day. If in town, a change to a healthy part of the country would be of great benefit.

MANAGEMENT OF OLDER CHILDREN.

The foregoing pages treat of the care of children during infancy. Directions will now be given about them when they are older. They will be arranged under two main heads—*Preservation of Health* and *Treatment of Disease*.

* See Appendix on Medicines.

PRESERVATION OF HEALTH.

The proverb has already been quoted, "Prevention is better than cure." It ought to be kept continually in mind. It will not be necessary to repeat explanations already given. New cautions required by a difference of age need only be mentioned.

1. PURE AIR.

This is the first essential. Its need has already been explained.

It is not enough to have plenty of fresh air outside ; we must allow it to come within our bodies in sufficient quantities. A sponge or piece of cloth, held loosely, will take up a great deal of water. The more it is pressed, the less it holds. The air we breathe purifies our blood in the lungs, which are like a large sponge. The less the lungs are pressed, the more air they will take in, and the better the blood will be purified. Boys when reading, writing, or working in any way, should not be allowed to bend over, squeezing the lungs, and hindering the air from getting in. To keep the body upright, is much healthier.

2. PURE WATER.

This is the second essential to good health. The great neglect with regard to its provision has already been noticed.

Get pure water if you can, and keep it pure. A little alum or the clearing nut will cause any particles of matter to fall to the bottom. Open earthen pots, with sand and charcoal, are often used as filters. The objection to them is that mosquitoes lay their eggs in them. Closed filters are greatly preferable. But both are useless if the charcoal, &c. are not well cleaned from time to time. The great thing is to get pure water, and filters will not be needed.

Filtering water does not destroy the poison which

causes fever. For this purpose, it ought to be boiled for at least five minutes—better longer.

Children, in general, are fond of drinking. They should be trained to be careful to use pure water.

There is an old Greek proverb, "Water is best." It quenches the thirst and does no harm. Parents should do all in their power to prevent their children acquiring a taste for intoxicating liquors. Abstinence from them on their own part will give most effect to their teaching.

3. FOOD.

Why we Eat.—Our bodies are like burning lamps which will go out if not supplied with oil, or they may be compared to railway engines which will not move without fuel.

Every word we speak, every step we take, wastes a little of our body. This goes on even while we are asleep, although not so quickly, for we are breathing and our hearts beat. It is our food which supplies this waste, and gives us strength to labour. A stone image does not need any food, because it does no work.

Our food also warms us. It burns within our breast like a little fire, although it does not break out into a flame. If we do not eat, our bodies get colder and colder. A good meal, on the other hand, makes us feel warm.

Children have usually good appetites, because they have to grow as well as work. Men and women have only to take in what they waste.

What to Eat.—Some kinds of wood burn much better than others, yielding more heat. It is the same with food. Some kinds are much more nourishing than others, but a variety is best.

We need food to make up for the waste, for strength, and for heat. Good food should contain all that the body requires. Milk supplies every want in the case of the young. When children grow up, they get other food.

Different kinds of grain form the chief food of man. Rice is one of the least nourishing. Wheat, the millets, and maize, are far superior. Men who live on them are stronger and can work harder than those who live on rice. Dholl, added in small quantity to rice, makes it more nourishing. Flesh and fish are both very strengthening.

Oil gives heat, but not strength. People who live chiefly on rice, ghee, and sweetmeats get fat and unable to work hard. They become grey-headed in early manhood, and suffer from many diseases. In cold countries more heat-giving food is needed. But the body requires some fat for other purposes besides heat; it is the excess which is hurtful.

Fruit, properly ripe, is generally an excellent article of food. But if unripe or overripe it is hurtful. Children are often hungry, and are tempted to eat any fruit they see, although it may be sour and green. Parents should be watchful in this respect, as it will save their children from much sickness.

Cooked food, kept too long, becomes unwholesome. This is sometimes the case with cold rice eaten in the morning. Decayed food of any kind should never be used, especially fish.

Double care is necessary about food when cholera or dysentery prevails. What may do no harm at other times, may then cause sickness and death. Raw fruits and vegetables in large quantities, and all indigestible food, should be avoided.

Spices, &c., in moderation, are useful. In excess, they injure the stomach.

Betel-chewing, so common in this country, is filthy and hurtful. It is bad for the teeth; it sometimes occasions cancer; it wastes a great deal of time and money, and should be avoided.

Smoking is especially hurtful to the young. Parents should not allow their children to acquire the habit.

Badly cooked food is unwholesome. People are sometimes made ill through the poison of lead or copper in cooking vessels. This should be kept clean, and

care should be taken that they are tinned from time to time.

Plain food is best for children, and indeed for any one. When the Queen Empress of India was a child, her breakfast was bread and milk, with a little fruit.

When good milk can be obtained, it should be largely used, especially for young children. Rice and milk are excellent; suji and milk are still more nourishing. Tea and coffee are not good for children. Sweetmeats and rich cake are much better avoided altogether. When children grow up, they must share in the food of their parents.

How to Eat.—When a woman is boiling rice, she puts it all into the pot at once. If she kept throwing in rice now and then it would be badly cooked. It is the same with our food. We should eat only at fixed hours, and the stomach should have time to digest one meal before another is taken. It is a bad habit to give food to children between meals.

Food, especially if hard or tough, should be well chewed before it is swallowed. It is thus mixed with the saliva, which helps digestion, and makes the food more nourishing. Water should be taken only sparingly during meals. The saliva should moisten the food.

Some food in the morning before going out strengthens the body, and helps to keep off fever. A good warm meal should be taken if possible, about noon. Some children attend school at too great a distance to come home. In such a case they should have a hearty breakfast before leaving. It may be objected that it cannot be got ready in time; but "where there is a will, there is a way." Clerks in public offices get a good meal before they leave, and parents should provide the same for their children. It is very hurtful to be obliged to work on an empty stomach. A badly-fed bullock cannot be expected to do as much as one that has plenty to eat. Children, with sufficient food, will get on better in their studies. Every school-boy should have some tiffin. Caste prejudices should

not be allowed to interfere with this. A little food when the child comes home from school, is also desirable. A good meal should be taken in the evening about seven o'clock.

After eating, the mouth should be washed and the teeth cleaned. This will help greatly to preserve the teeth and prevent toothache.

4. LIGHT.

Plants grown in the dark look white and sickly. They always try to get to the light. It is the same with human beings. Those who live in the dark are pale and feeble, liable to many diseases. Even their minds suffer.

"Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun." If you wish to keep a bird in a cage from singing, cover the cage with a cloth. Birds sing only when they are happy, and the dark takes away their spirits. We also feel more cheerful in a bright day than when it is dark and gloomy. People getting better from sickness seem to drink in strength from the light.

A dark house is always an unhealthy house. There is a saying, "Where light cannot enter, the doctor must." Sunlight helps to purify a house. It shows also when things are dirty, and reminds people to clean them. Light drives away snakes and vermin.

But while light is good, exposure to the hot sun may cause illness. Children often get headaches from running out in the sun. People accustomed to work in the fields may get no harm, but others, when they go out in the heat of the day, should have the head well protected and an umbrella.

5. DRESS.

Clothing should vary with the climate. In South India, the hot and cold seasons do not differ so much as in the North. Many people die in Bengal during

the cold season, because their clothing is not sufficiently warm. The cold wind blows on them and they are attacked by fever. A flannel under-coat is a great protection.

The two most tender parts of the body are the head and the bowels. Good turbans protect the head from the sun. Several folds of cloth round the belly, especially at night, are a great preservative against sickness. A flannel belt answers the same purpose. It has been called a life-preserver during a cholera epidemic.

Special care is needed when the seasons change. Hot and cold days often follow each other. A chill is very apt to cause sickness. Weak children often suffer from the cold.

Clothing worn during the day should be put off at night and spread out. Sweat from the body will thus be allowed to dry.

All clothing should be kept clean. This is essential to good health. Slovenliness in dress should not be allowed.

Many crores of rupees are spent on gold and silver ornaments for children. Money which could be profitably employed is thus rendered useless. The effect on the children themselves is bad, tending to make them proud, and to dislike hard work. Many of them are also murdered every year on account of their ornaments. This bad custom should be given up.

6. BATHING.

Bathing cleanses the body, and cold bathing strengthens both body and mind. Brahmans bathe daily; some other castes but seldom. Part of the mental superiority of the Brahmans has been attributed to this. A daily bath is of great benefit to all. Parents should teach their children the habit, and they will follow it from pleasure, as well as find the value of it in their studies.

Morning is, in general, the best time. Pure water

should be used. It is thought that guinea-worm finds its way into the body from bathing in dirty water. Pouring water on the head from chatties, or pots, is an excellent mode of bathing. The water gets cool in the pots, and the exertion of lifting and pouring them is beneficial. Swimming baths are also very good, but often they cannot be obtained.

The body should, if possible, be cleaned with soap, and after it has been well washed, rubbed dry with a rough towel. Plain soap is better than cheap scented soap. The rubbing is an important part, freshening the skin. Towels should be clean, or the benefit will be lost in a great measure.

Cold water is best for the young and strong. It is not good to bathe in it soon after eating; it hinders digestion. Nor should it be used when over-fatigued or when suffering from diarrhoea. Persons recovering from fever sometimes bring back the disease by bathing too soon in cold water. A cold wind blowing on the body when a person is bathing, may cause an attack of fever. It is a bad custom to walk home in the sun from a bath in wet clothes.

If the body feels chilly after bathing in cold water although the skin has been well rubbed, it shows that water a little warm is better. But tepid water does not strengthen the brain, the organ of the mind, like cold water.

Rubbing the skin well after a short bath at night before going to bed, promotes sleep.

Warm baths are useful in certain cases, some of which will be mentioned hereafter.

Bathing water should not be allowed to soak under a house. It gives rise to fever and rheumatism. Its drainage into wells should also be guarded against.

7. EXERCISE.

A noted English writer says that "the first requisite to success in life is to be a good animal"—or to be healthy, strong and active. One great difference

between an Englishman and an Indian is, that the former generally walks or rides every day for health, while the latter, as a rule, sits at home, and does not go out unless he is obliged. The active habits of the English are one reason why nearly one-fourth of the earth's population acknowledge their rule. If the Hindus wish to prosper like the English, let them, among other things, copy their love of exercise.

Active exercise strengthens the muscles, purifies the blood, and drives waste matter out of the body. We can take more food after exercise, and digest it better.

Proper exercise makes us strong all over. Without it, people become inactive and the least effort is a burden ; they are miserable themselves, and useless to others.

Children everywhere are fond of play. It is good for them. Their legs and arms become stronger by running, throwing the ball, and other games. Even shouting and laughing promote their health. Exercise outside is much better than within doors as the air is purer.

While some boys neglect their lessons for their sports, others get too little exercise. In many Native schools boys are kept in too long, and there is not a sufficient change of posture. Children should sometimes stand as well as sit in school.

The Indian Education Commission recommended "that physical development be promoted by the encouragement of native games, gymnastics, school drill, and other exercises suited to the circumstances of each class of school."

Exercise should not be taken when the stomach is empty, nor immediately after a full meal. A good game at cricket or ball about sunset is very useful.

Girls require exercise just as much as boys, and suffer much from the want of it. Skipping-rope and other active sports should be encouraged among them.

Young men preparing for university examinations are the most apt to suffer from want of exercise. Some

of them think that all their time should be spent in study. This is a mistake. A carpenter is well employed at times in sharpening his tools. The mind works through the brain. By exercise, the brain receives a larger supply of blood and is strengthened. It has happened that students who neglected exercise have become so ill, that they could not appear at the examinations. Some have thus made themselves weak and sickly all their lives.

It is a mistake, on the one side, for parents, to seek to keep their children always at study and nothing else; and it is as great a mistake on the other hand to allow them to neglect their books as they please.

8. SLEEP.

It is during night that the waste of the body is chiefly made up. The brain gets rest, and after a good sleep we rise in the morning like new beings.

Children need more sleep than grown-up people. Directions have already been given about the sleep of infants. A boy or girl about 12 years of age requires about 9 hours' sleep. Some people need more sleep; others less.

Night is the best time to sleep. Parents should make their elder children go to bed not later than ten o'clock and rise about daybreak.

Early to bed and early to rise,
Makes a man healthy, wealthy, and wise.

A full meal should not be taken shortly before going to bed. It is apt to make people sleep heavily and have bad dreams. The stomach is hard at work, and the brain is disturbed.

Sleeping on beds is better than sleeping on the ground. When the ground is dry and the country is not feverish, it may do no harm. If the ground is damp, it sometimes occasions rheumatism, a sharp pain in the body, or other illness. The bad air which causes fever lies low, and even the small

height of a bed helps to keep it off. People who sleep on the ground are liable to be bitten by snakes that go about at night seeking for food.

As already mentioned, pillows and bed-clothes should be clean. Waste matter from the body sticks to them, and does harm.

Plenty of pure air is necessary at night. Sleeping in close rooms is very hurtful. More will be said of this under Houses.

Many persons have the bad custom of sleeping with the head closely covered by a cloth. This keeps the fresh air from getting in properly.

In some parts of the country, during the hot season, people may sleep in the open air without harm. But when there is dewfall, it is very injurious, bringing on fever. In such a case, there should always be some shelter over head.

A person should not sleep in a draught or where the wind blows on the body. The warmth is taken away, and illness often follows. It is especially needful to keep the body warm at night when fever or cholera is about.

9. HOUSES.

Health depends a good deal upon the house in which we live and its surroundings. People are sometimes tempted to take houses in bad situations, because they are cheap. Such houses, however, are dear in the end. The loss through sickness far more than makes up for the difference in rent.

All houses, even in dry situations, should be raised two or three feet above the ground. This keeps them from being flooded during the rains, and they are free from damp, a frequent source of disease. The roof should slope enough to carry off the rain easily.

A sufficient supply of fresh air is the first requisite in a house. People die twice as fast when they are crowded as in places where they have plenty of fresh air.

The space needed depends very much upon the rate at which the air is renewed. A small room in which

the air is constantly changing, will be healthier than a much larger room which is close. The cracks in the walls and openings under the roof in most cottages, allow the air to get in and out freely.

The want of fresh air is chiefly felt in houses built of brick and plastered with chunam. Many houses of this kind have only a few small windows, which are carefully closed at night. Some rooms, especially those in women's quarters, have no windows—only a small door. The air which has been spoiled by the sleepers has no proper means of escape, and fills the room.

The injurious custom prevails of filling up bedrooms with all sorts of furniture, sometimes with pots containing articles of food. This reduces still further the proper supply of air.

Fires should not be burnt inside the rooms where people live, unless there is a chimney or some means for the foul air and smoke to escape. Lamps spoil the air as well as living animals.

Every room used for sitting or sleeping should have at least two windows on opposite sides, so that the wind may pass through them. With only one window, there cannot be a free circulation of air.

The air which has been breathed rises, as smoke rises from a fire. There should be openings near the roof, allowing it to escape. Windows with venetians would answer this purpose. Some air gets in through the sides of doors; but a few small holes near the bottom of them would admit a larger supply.

Houses should be whitewashed twice a year. Lime is a valuable purifier. Mud walls and floors may be coated with clay water once a week, but cow-dung should not be added to it. Dry dirt does much less harm than wet dirt. Rooms and verandahs should be carefully swept out, but daily washing renders them damp and unwholesome.

House Refuse.—Plantain skins and other refuse should never be dropped near the house. When they cannot be taken away at once, it is a good plan to

have an earthen vessel, with a tightly-fitting cover. During the day, refuse may be thrown into the vessel, which should be emptied next morning. In some towns there are now carts which take away rubbish. Where this is not done, refuse should be thrown into a pit at some distance from the house. The farther filth is from you, the less it harms. Many people, however, make pits close to their doors, into which they throw all refuse, leaving it to decay. They dig them so near that they may not have the trouble of walking a few yards more when they have anything to throw in. The people themselves get so used to the foul smells that they do not mind them. This, however, does not prevent their evil effects.

Waste matter from the body should not be allowed to touch the ground near the house as it pollutes it. If there are sweepers, it can be received into vessels which should be emptied at least twice a day. When this cannot be done, all should go to a trench, dug in a convenient place as far as possible from the house. It may be a foot broad, and one or two feet deep. A screen hedge will make it private.

There is an easy way of getting rid of the bad smell. What is poison to man is drunk in by the earth, just as a cloth sucks up water. Sprinkle some dry earth over filth, and the smell soon disappears.

Dry refuse may be burnt. The ashes afford excellent manure, and remove bad smells like earth.

Surroundings.—Houses should, if possible, not be shut in by other buildings. There should be trees enough to give some shade, but not so many as to keep out the pleasant breeze. Low jungle should not be allowed to grow near houses. Leaves which fall from trees should be swept into a pit at some distance or burnt.

A house should not be used as a stable for cattle, horses, or goats. They pollute the air by breathing, as well as by their droppings. If they are kept near

great care should be taken to remove the filth. Manure heaps should be at least a hundred yards from houses.

Where land slopes, the water soon runs off. If it is low, the water lodges after rain, and the place becomes damp and chilly. When the sun shines again, the little pools dry up, but the decaying filth sends out offensive and injurious smells. Hollows where water gathers should be filled up. There should be drains, to carry off water in the wet season, which should be cleaned out from time to time.

Swamps and marshes are a great source of fever. Drainage* and cultivation are the only sufficient remedies. Where these measures cannot be taken, a thick belt of trees may be planted between them and houses, which will help to keep off malaria, the bad air supposed to cause fever.

Attention to the foregoing directions would do much to prevent sickness and reduce the number of deaths.

DISEASES OF CHILDREN.

Uses of Pain and Sickness.—Pain is, in every case, the result of something being wrong either in mind or body, and though it may be hard to bear, it is not entirely an evil. It is a merciful provision to warn us of danger, or to tell us that we are committing some error. If a child puts its hand into the flame of a lamp, the pain teaches it to snatch it away in a moment, before it has time to do serious injury. A person using a knife and cutting into the finger is instantly warned to stop; he is doing wrong. Or suppose the clothing of a very aged or infirm person were to take fire, when left alone and asleep, the cry of suffering will bring assistance, whereas, if there were no pain he might be burned so severely as to cause death, and not be aware what was going on.*

* *Till the Doctor Comes*, p. 11.

Pain also assists the cure. Suppose a person breaks one of his bones ; perfect rest is necessary to its recovery. This rest is secured by the pain felt at attempting to use it. The pain of sickness obliges people to lie in bed, when a cure becomes possible.

Pain and sickness have still higher uses. When well and strong, we are apt to forget death and the eternal world which we may enter at any moment. Sickness calls us away from ordinary business, and gives us time for reflection.

Disease in India.—Some diseases prevail much more at certain seasons than others ; but India is so large a country and the climate differs so much, that what is a healthy part of the year in one province may be just the opposite in another. The Report on “Sanitary Measures in India in 1883-4,” gives the following as the most unhealthy or healthy months :

Bengal.—November and December the worst months.

N. W. Provinces and Oudh.—May the worst, October the best.

Punjab.—The death rate was greatest during the first two and last two months of the year.

Bombay.—June, July and August the worst months.

Madras.—December the worst ; April the best.

Dr. Vanderstraaten says of Ceylon : “Fever generally commences in May and lasts till November. After fever subsides, outbreaks of dysentery occasionally occur, owing to sudden variations of temperature during the North-east monsoon. December and January are the most unhealthy months of the season on the Western Coast, owing to the ‘long shore’ and land winds at night.”

The Sanitary Report gives the number of reported deaths during 1884-5 as follows :

Fevers	...	...	3,396,239
Bowel Complaints	...	...	385,928
Cholera	...	...	293,638
Small-Pox	...	...	280,630
<hr/>			
All Causes	...	...	5,377,600

The Returns, however, are imperfect. There were, undoubtedly, more deaths.

Fevers caused more than half the mortality—nearly twelve times as much as cholera. Cholera varies a good deal in different years. In the N. W. Provinces and Oudh 31,328 persons died from cholera in May, 1887, whereas in the corresponding month of the previous year the number has only 1,016.

Prevention of Disease.—There are two ways of gaining this object :

1. *By strengthening the general health.*—The foregoing directions are intended to secure this. Drought kills a feeble plant much sooner than one growing vigorously. Two men may be exposed to the same storm at night. One gets sick and dies ; while the other sustains no injury. From superior strength, one was able to resist the trial to which the other succumbed. If children are in robust health, they are much less likely to fall sick.

2. *By using special precautions against particular diseases.*—Thus, it is well known that vaccination is a safeguard against small-pox. There is no such effectual means of guarding against fever and cholera ; still, much may be done. The measures to be employed will be mentioned when considering each disease.

The Germ Theory of Disease.—Some account may be given of this, although it is not yet accepted by all.

Itch is caused by a very small insect burrowing in the skin. It can be distinctly seen by the microscope, and looks like a small tortoise. If we touch a person with an oily hand, some of the oil sticks to ours. If we touch a person with itch, it is possible that some of the insects may adhere to us, and we be similarly attacked. Diseases which spread by touch are said to be *contagious*, or touching. But in some cases we may catch a disease without touching those who have it. If we have not been vaccinated, we may have an attack of small-pox by even going near a person suffering from it. Such diseases are said to be *infectious* or catching.

A piece of camphor is constantly giving out small particles which cause the smell when they enter the nose. In like manner, it is supposed that in an infectious disease little particles are given off which may cause it in another person into whom they enter. These particles differ in an important respect from those of camphor, musk, &c. The camphor particles do not reproduce themselves and grow, while they do so in the case of small-pox. The latter are more like the seeds of a plant, which will spring up under fitting conditions. Hence they have been called *germs*, or buds. Each infectious disease has its own seed, which reproduces it, just like different kinds of grain.

In order that seed may spring up, it must fall on the proper soil. If on the bare rock without moisture, it dies ; if there is a little soil, it springs up a little ; on rich soil it grows luxuriantly. It is the same with disease germs. A strong person is somewhat like the bare rock ; a weak person is like the ground with a little soil ; a filthy neighbourhood is like the rich soil.

The stronger any poison is the more deadly it becomes. If we drank a cupful of poison we should die ; but if it were thrown into a large cask of water, and we drank a cupful, we might get a little sick, but we should not lose our lives. It is the same with disease germs. The more they are mixed with fresh air, the weaker they become.

There are also certain substances which kill disease germs, as burning sulphur, carbolic acid, &c.

If we are healthy and very careful to have pure air, good water, good food, proper clothing, and great cleanliness everywhere, disease germs, having no fitting soil, will be much less likely to spring up.

Besides diseases that, properly speaking, are contagious or infectious, there are some others which are spread in a different way. Cholera is generally supposed not to be infectious ; but the vomited matter and motions of cholera are thought to be means of conveying the poison. So with typhoid or enteric fever.

Signs of Sickness.—A young child does not know what sickness is. When it feels unwell, it has no idea of the cause. It is the mother who should watch the first signs of illness. This is particularly needful in the case of infants, who have “no language but a cry” to express pain. Still, a skilled person may learn a good deal even from a child’s cry.

A young infant, when ill, loses its merry laugh and its cheerful look; it ceases to watch its mother’s eye as it used to do, though it clings to her more closely than ever, and will not be out of her arms even for a moment. In an older child, want of appetite, a disinclination to play, unusual crossness, and a wish to loll about, are signs of illness. It complains of feeling ill, or says that it has pain in some part or another, although it is by no means certain that it describes the right place. A good plan is to ask it to put its hand where it feels the pain.

One of the first points is to ascertain the presence or absence of fever—whether the child feels hotter than usual. The hand is not a safe guide. English doctors employ an instrument for measuring heat, called a thermometer. In the absence of this, however, the hand must be employed. If the heat is not more than usual, it is a sign that the child has no inflammation in the chest, nor is about to suffer from any of the eruptive fevers, like measles, &c.

It should also be observed whether the skin is dry or moist, whether there is perspiration, &c.

The pulse is an important guide to a physician. It is felt at the wrist just inside and below the raised part of the wrist bone. But it beats quicker in children than in adults, and is less easily counted.

The frequency of breathing is not so difficult to ascertain, and gives more reliable information than the pulse. It is best tested when the child is asleep, remembering that the breathing is then slower than in the waking state. The breathing may be simply quick from fever, but if the lips are kept apart and the child is very restless and thirsty, the chest may be inflamed.

The sleep of a child in health is perfectly tranquil. Unquiet sleep, with tossing about, hurried breathing, and waking in a fright, indicate feverishness.

In health, the tongue is clean and moist. In sickness it may be dry, white, dark brown, &c.

The bowels are another test. The child may be constipated or it may suffer from diarrhœa. A very bad smell in the motions shows indigestion. The presence of blood is a sign requiring careful attention.

Observe the urine, whether it is scanty or too frequent, what colour it is, &c.

A vigorous fit of crying is often caused by wind in the stomach. The pain is not increased but relieved by friction. In inflammation pressure aggravates the pain.

Coughing, vomiting, the appetite, &c., are other points which might be mentioned.

Attention to the foregoing signs will enable a mother to know whether her child is ill, and serve partly as a guide to the nature of the disease.

Slight Ailments.—The following general directions may be given with reference to these :—

If a person feel ill, he should give up work, lie down keep still, and keep himself comfortably warm. If not hungry, let him omit one or two meals; if thirsty, he may drink water. When again hungry, let him take congee or other light food. If costive, he may take a very gentle purgative. When recovering, he should resume work gradually.

In many cases this course, if adopted in time, will restore health.

“ Quiet, Diet, Try it.”

Care of the Sick—The undue tendency to trust to medicine for recovery has already been noticed. It is a great mistake. It is Nature that cures. Medicine may help to remove things that hinder restoration to health, but nothing further. Careful nursing is still more important than medicine. Without it, medicine will do little good, while, with it, medicine

is often not needed. Most people, however, do not know how to nurse the sick, and often do them much harm through their ignorance. A few hints will, therefore, be given on this point.

The Bed.—Never put it in a corner; neither in a direct draught, nor in a glare of light. Still, there should be plenty of light, and, if possible, a cheerful outlook from the bed. The sheet should be laid straight and tight; pillows should be soft. There should be two sets of pillows and sheets, so that the one may be airing while the other is in use. Even turning a pillow gives some relief.

Ventilation.—The air should be kept pure and fresh. This is doubly needful in time of sickness. Sick people give off a great deal of waste matter, which is often putrid. Sometimes the patient is shut up in a small room, and a number of people come inside, making the air still worse. This is hurtful both to the sick person and to those who come in.

Three things are to be borne in mind: 1. There should be an outlet for the impure air. 2. The *outside* air is purer, night and day, than the *inside* air. 3. The outside air should be admitted continuously—not in sudden puffs.

Washing and Bathing.—When a person is weak, it would be hurtful for him to bathe in cold water; but it is generally refreshing to have the body cleansed every day. Wash a part with tepid water, wipe it dry, rub it gently, cover it; then wash another, till all has been cleansed. Profuse bathing as soon as a person has recovered, is a frequent cause of relapse, and should be carefully avoided. Regular moderate washing is far better than the occasional lavish use of water. When a very hot bath is needed, put the person into the water just pleasantly warm. Then gradually add hot water. Thus a very high heat may be borne without discomfort.

Cleanliness.—Whatever causes bad smells should be removed at once. Chamber-pots should be taken out the moment they have been used, and never

emptied in the room itself. They should be thoroughly cleansed and exposed to the air.

Dry dirt is comparatively safe. Wet dirt becomes dangerous. The floor of the sick-room should not be washed or cow-dunged unless the patient can be removed to another room until it is thoroughly dry. The room, however, should be swept out every day. This does not mean making the dust fly about that it may settle again as bad as ever. To wipe everything with a damp cloth, is the best way to remove dust.

Quietness.—Sick people are troubled by noises which they do not care about when in health. Loud talking should be avoided. Rest is a great restorative. If the patient is asleep or dozing, there should be perfect stillness. Sleep is one of the best doctors. Natural noises are less trying to the sick than unnatural ones. Speak as usual, walk about lightly and firmly. Never whisper. The sick person tries to make out what is said and feels anxious. If there is anything he should not hear, go quite away from him.

Food.—Sometimes it is best for the patient to abstain from eating. As a general rule, a sick person should not be forced to eat or drink. On the other hand, in lengthened illness food is needed to sustain life. Sick people sometimes die of starvation. Often when there is no desire for food, a patient may be induced to take some, if of the right kind and presented in an agreeable way. Generally when there is fever, congee, milk, and such like drinks should alone be given. Every thing difficult of digestion should be avoided. The food offered should be well prepared, and brought in a clean dish on a white cloth. Just as much should be brought as is likely to be required. Let the food come in at the right time, and be taken away, eaten or uneaten, at the right time. It should not be left standing by him. A little at a time can often be taken when a large quantity cannot. Life sometimes depends on giving food with exact punctuality.

Kindness.—Sick persons are greatly tried, and are

apt to fret. Bear with them, speak in a pleasant tone, and endeavour to cheer them. Lies, however, should never be told to the sick. By a change of posture, raising the head, or putting a pillow here or there, relief is sometimes afforded.

Native Doctors and Medicines.—The medical books in use among Native doctors who have not attended Medical Colleges, were mostly composed several hundred years ago—some of them claim to be very much older. Formerly it was considered polluting to touch a dead body, so that little was correctly known of its true structure. Diseases were attributed to disorders of the three humours—air, bile, and phlegm.

Some of the physicians in ancient times were able men, but people should learn by experience in all parts of the world. At present any one can set up as a doctor as easily as he can open a shop. There is no security for the knowledge of native doctors unless they have passed the examination of some Medical College. Physicians of the latter class, if available, should always be preferred.

Ignorant native doctors are fond of using dangerous medicines, like arsenic and calomel. Many of the vegetable medicines sold in the bazar are worthless. They are often old and dry, and have lost all virtue, if they ever had any. Such medicines are generally of no use except they are fresh.

The foregoing remarks apply to Native doctors *as a class*. There are a few really good physicians among them, who have profited by their experience. Bragging quacks and quack medicines, so often advertised, are especially to be avoided.

Superstitious Practices.—Charms and demon ceremonies are both useless and sinful. They should never be employed. Nor should lucky times be asked for giving medicine. Great harm may be done in this way. It should be given at any time when needed. God never ceases to reign. All times are lucky for doing what is right. Such recommendations come from ignorant old women and unskilful

doctors who know no better. Give the best medicine, and take every possible care, asking God for his blessing. Dismiss any doctor who proposes charms; he is trying to find an excuse to hide his incompetence.

FEVERS.

Prevalence.—About three million people, probably more, die in India from fever every year. The mortality from it is greater than from all other causes taken together. Besides those who are carried off, many millions suffer more or less from disease. In some feverish districts if a person walk round in the evening, he will find in almost every house a poor creature either suffering under an attack or preparing for it. It is looked upon almost as a matter of course. Its prevention and treatment are therefore of great importance.

Symptoms.—The signs of fever are well understood, —heat of skin, thirst, a quick pulse, a flushed face, and scanty, highly-coloured urine.

What Fever is.—Fever is a burning up of the body which wastes away faster than the loss can be supplied by nourishment. Weakness follows, and a great quantity of worn-out material is thrown upon the liver, spleen, and other organs, which they are unable to get rid of, and the blood is not properly purified.

General Treatment.—The main points to be kept in view are the following:—

1. *Reduction of the great heat of the body.*—If this can be lowered, less fuel, as it were, will be consumed, and the body will not waste so quickly.

Milder measures, hereafter described, will often have this effect. When the heat rises suddenly very high and there are twitchings of the muscles and other signs threatening convulsions, Dr. Birch recommends the use of the cold bath. Ignorant native opinion is strongly opposed both to cold water and fresh air; but it should not be listened to. Care, however, is necessary. A medical man should be consulted if possible.

If this cannot be done, let the child first be placed up to the neck in a bath nearly tepid. Cold water should gradually be added, reducing the temperature. The child may be kept there from 10 to 15 minutes. The head also should be kept cool. A thickly-folded wet cloth does not answer this purpose. It soon becomes warm, and increases the heat. A single piece of cloth, wetted with vinegar and water, should be used.

As soon as shivering commences, the child should at once be taken out, placed lying upon a sheet spread to receive it, and gently dried without rubbing: perfect drying is not desirable. Then, when covered with a sheet, it will probably fall asleep.

If the dangerous symptoms return, the bath should be repeated as before. It is sometimes necessary to do it more than once during the 24 hours.

In less severe cases, sponging the body with water or vinegar and water (one part to three) is very useful, especially in prolonged fevers.

Drinking freely of cold water, and sucking ice, when procurable, are other means of reducing the temperature. So also is the application of cold to the head in the manner already described. A lotion containing a mixture of equal parts of vinegar, arrack, and water, is much more cooling than simple water.

Some medicines have a cooling effect. A gentle rubbing of the body with warmed oil is often very beneficial. It may be done after the bath or the sleep which follows the bath.

When a patient is burning hot, heaping on bed clothes does not hasten perspiration, but only increases the heat. Additional clothing should be added only when perspiration begins.

2. *Rest.*—Exercise uses up the body as well as fever. Every movement, even every thought, represents so much expenditure. The patient should be kept quiet.

3. *Support by food.*—Native doctors sometimes starve their patients to death. The fever is reduced, but death from exhaustion is the result. The mortality

is thus greatly increased. In prolonged fever especially, every particle of strength should, as far as possible, be retained. The food, of course, must be wisely selected.

4. *Purification of the Blood.*—Medicines are useful for this purpose; as mild purgatives, fever mixtures, &c.

Classes of Fever.—Almost all fevers begin in the same way. For some time it is generally difficult to tell to which class they belong. When developed, they may be arranged under the three following heads:

1. *Continued Fevers.*

2. *Remittent or Intermittent Fevers.*—Those which moderate or stop for a time in their course.

3. *Eruptive Fevers.*—Those in which there is a breaking out in the skin, as in small-pox and measles.

The above classification will not be strictly followed, the simplest and commonest kinds being first noticed.

1. *Simple Continued Fever.*

This name is given to a mild form of fever which lasts from 24 hours to two or three days. There are no intervals as in intermittent fever. It is very common about the time of teething, but may occur at all periods of childhood.

Symptoms.—It generally begins with a feeling of weakness, loss of appetite, chilliness, headache and pain in the limbs, thirst, and highly-coloured urine. Soon after the fever comes on, the heat may be felt by the hand, and the pulse is quick. The great heat seldom lasts for more than a day. With the decline of fever there is a feeble perspiration.

Causes.—Improper food, exposure to the sun, chills during changes of weather, and teething, are some of the commonest causes.

Treatment.—The child should be put to bed in a cool and slightly darkened room. A sheet will be a sufficient covering unless it complains of chilliness, in

which case a blanket may be used until it has passed away. A dose of castor-oil is then generally advisable. During the hot stage cooling drinks, as water with a little lime juice or tamarind pulp, may be freely allowed. Sponging the body with a mixture of one part of vinegar and four of water, will be found refreshing. An hour after the purgative, the Fever Mixture (see Medicines) should be given every second hour. Under this treatment the fever will generally begin to decrease in from 12 to 24 hours. The first sign is a little moisture about the roots of the hair. The bed-covering should then be increased, and if the child is old enough, some *weak* warm tea may be allowed during the perspiration.

The strength should be maintained by food. Milk and water may be given the first day and somewhat stronger food afterwards: chicken broth is excellent.

A tepid bath at bed-time and gently rubbing the body with warmed oil, are useful when a restless night is feared.

If the disease continue, quinine should be given as directed under the next head.

2. *Intermittent Fever or Ague.*

This is the fever which is so common in India. It was once nearly as prevalent in England, but by the drainage of marshes, a pure water supply, greater cleanliness, &c., it is now much less prevalent in that country. The same means would have a similar effect in India.

Forms.—There are three principal varieties of this fever; viz: The daily ague coming on every day; usually in the morning. The third day ague, with an interval of one clear day; usually coming on about noon. The fourth day ague, leaving an interval of two clear days; usually commencing in the afternoon. That which returns every day is perhaps the most common. There are also irregular forms which differ more or less from the foregoing. But in all kinds the

symptoms are divisible into the cold, hot, and sweating stages.

In children there is less regularity in the symptoms. Often there is an absence of shivering, the stages are of shorter duration than in the case of adults. The hot stage, however, is always well marked.

Symptoms.—The child refuses food and lolls about. The fit begins with a feeling of cold, the skin becomes pale and rough ; the hands feel cold. This stage may last from a quarter of an hour to two or three hours. Then follows the hot stage ; which lasts from two to four hours. At length the sweating stage commences, by moisture first felt on the face and neck, and soon extending to the whole body. The pulse now falls to the natural standard, and the patient begins to feel in his usual health, although often remaining weak.

Treatment.—The great object is to shorten the cold and hot stages. While the child complains of feeling cold, let him be well wrapped up. A bottle of hot water, rolled in flannel, may be put to his feet, and he should drink freely of warm tea or an infusion of ginger. When the hot stage comes on, the clothing should be removed. The patient should be encouraged to drink freely of cold water—one of the best means of promoting perspiration—and the body may be spunged with a mixture of vinegar and water. If necessary, the fever mixture should be given every hour till perspiration has set in.

When the patient begins to perspire, if not profusely, it should be encouraged by still keeping the body well covered, and by giving tea, infusion of ginger, or, if preferred, cold water. Care should be taken to avoid a chill. There need be no hurry in changing the clothes.

Quinine should now be given. The great value of this medicine consists in helping to prevent the return of the fever. Some other medicines, like chiretta may be strengthening, but they have not this effect.

Quinine should not be given, as a rule, during either the cold or hot stages of ague. The proper time is after perspiration has taken place. The bowels should not be confined, and a strong dose should not be given on an empty stomach. A child under five years of age may get two doses a day, each as much as will lie on a two-anna piece; a child from six to twelve years may get as much as will lie on a four-anna piece twice a day. It is a good plan to mix it with some lime juice.

Even after the attack is over, the quinine should be continued in diminishing doses twice a day for ten days. Great care should be taken to avoid chills.

In emergencies, the cold bath, (see page 44) may be tried.

In some cases arsenic benefits where quinine fails. "Fowler's Solution of Arsenic" should be used—not the solid form. Two drops may be given twice a day just after meals. But its use is so dangerous, that it should not be given, especially to young children, except under skilful medical advice.

After Effects of Ague.—Some children are very subject to attacks of this disease. Each may be cured, but it is followed by increasing weakness. The child becomes thin and flabby, the blood watery and only feebly nourishing; the spleen may be enlarged; until at last death follows from diarrhœa or debility. Up to a certain point, this condition is curable; but if allowed to run on, remedies are useless.

The following means may be employed:—

The food, especially of young children, should consist largely of good milk. So long as signs of active fever remain, two full doses of quinine* should be given twice a day. When these are overcome, the quantity should be diminished. Afterwards for three months it may be given with citrate of iron in doses of one to two grains.* Should this irritate the bowels, the syrup of iodide of iron* may be substituted; but

* See Medicines,

quinine should also be given twice a day between the doses. Diarrhœa should be checked at once. Moderate exercise should be taken, but exposure to the sun and fatigue should be avoided.

If the feverish state continue, the best remedy is a change to sea, if possible, or at least to the sea-side.

Anæmia, or Poverty of Blood.—This case greatly resembles the preceding. The blood is watery, and contains few red globules. The eyelids, lips and tongues are of a pale pink colour. The patient feels languid and indisposed to exertion.

Treatment.—The general means for improving the health should be used. The following medicine may also be given: Take of sulphate of iron 4 grains: omum water and infusion of chiretta each six ounces. Of this the dose for children is from a tea-spoonful to a table-spoonful according to age, thrice a day.

Sulphate of iron is used in making ink, and it causes the motions to be dark-coloured, but this is of no consequence.

Enlarged Spleen.—The spleen is an oblong flattened body, very spongy, on the left side of the body, in the upper part of the belly. When healthy, it is not noticed; but after long fever it may sometimes be both felt and seen, forming the condition known in native children as “pot-bellied.” The red globules of blood are deficient, the tongue is pale and tremulous, and the whites of the eyes become lemon-coloured. When the spleen is diseased or enlarged a very slight blow, or simply a fall, may rupture it and the person bleeds to death. The treatment for the “After Effects of Ague” will do much to cure spleen. When the spleen has been long enlarged, the ointment of the red iodide of mercury may be rubbed in daily.

Causes.—Ague and Remittent Fever are usually attributed to what is thought to be a kind of poison, called *Malaria* (bad air), though it has never been separated. It is supposed to be somewhat heavier than common air, because people who sleep in upper

rooms are less liable to fever than those who sleep on the ground. It is also supposed to be more powerful at night or when a person sleeps, because fever more frequently follows exposure at such times. It is mostly produced near the marshy banks of rivers, in dense jungle, and in sandy districts with a moist subsoil. The drying of wet earth is another cause. It exists in greatest abundance immediately after the monsoons, when the hot sun dries the ground filled with moisture. Water drinks it in, and may convey it as well as air. It is one of its commonest channels.

The Madras Sanitary Commissioner says that "It is during the cold and monsoon months that the greatest number of victims succumb to fevers." He considers it due more to changes of the weather than to any malarial poison. He adds, "When the poor people learn how to protect themselves by proper clothing and food from the rapid changes of temperature, then the muster-roll of deaths from fever will diminish." Other measures, however, are also necessary.

Preservatives from Fever.—The general means for strengthening the body enable it, at the same time, better to resist the attacks of disease. The *causes* of *ague* which have been mentioned will also partly indicate the means to be employed for its prevention. It may be well, however, to state separately the points where special watchfulness is necessary.

1. Bad water from marshy ground, &c., is one of the chief agencies for causing fever. Every care should be taken to get good water. If this is impossible, let all the drinking water be boiled.

2. Warmer clothing should be worn during feverish seasons of the year, especially at night and during changes of the weather.

3. Exposure to the night air should be avoided. When fever prevails, people should not sleep in the open air, but under shelter.

4. Sleeping in an upper room is a safe-guard. The ground or a low place is the worst situation. Even a bedstead is some protection.

5. Draughts and chills should be avoided. While a sufficient supply of pure air is very necessary, the wind blowing upon a person asleep is generally hurtful. So also when bathing.

6. No one should go out in the morning till the sun is up and some food has been taken. Fog should be shunned.

7. Continued exposure to the sun may bring on an attack. The body should not be weakened by over-fatigue or long fasting.

8. Damp feet, sitting in wet clothes, and profuse bathing when weak, are all hurtful.

9. During the feverish season or in a malarious locality, some quinine should be taken every day.

Attention to the foregoing rules would greatly lessen the ravages of fever, and save lakhs of lives every year.

When Dr. Balfour was Madras Surgeon-General, he issued the following circular, containing brief directions about the cure and prevention of fever :—

RULES FOR PERSONS SUFFERING FROM FEVER.

When a person is attacked with fever he should not expose himself to the sun, the night air, or rain, but stay in the house, and take a dose of any simple purgative medicine such as castor-oil.

2. When this has cleared out the bowels, he should take the vegetable medicine called quinine, which has been proved the best of all remedies for fever.

3. The mode of taking quinine is as follows :—For a grown-up person, put into a cup as much quinine as will lie on half a rupee and having added some water, stir it well and drink the mixture. A similar quantity should be taken three times every day until the fever ceases. Thereafter, one dose daily for a week or so will be sufficient to give strength to the body and prevent the return of the fever.

4. Children suffering from fever should also get a purgative and quinine, but in smaller doses. A child under five years of age may get as much quinine as will lie on a two-anna piece twice a day. A child of from six to twelve

years of age as much as will lie on a four-anna piece twice a day.

5. In India many persons leave off taking food when attacked with fever; but to do so is following a bad custom, as starving makes the fever stronger and may produce evil consequences. Persons ill with fever will find it beneficial to drink milk, congee, pepper-water or soup and as soon as possible to take their ordinary food.

6. Persons recovering from fever should keep the body warm, and never sleep outside the house at night.

7. During the feverish season of the year, people should wear warmer clothing than usual, and refrain from sleeping in the open air or in damp clothes.

3. *Remittent Fever.*

Symptoms.—In fever of this kind the heat lessens at times but never leaves wholly. It often comes on suddenly. Pains are sometimes felt in the limbs, loins, and head, and vomiting is a frequent symptom. A severe attack of watery diarrhœa is not uncommon. A shivering fit is seldom noticed, though the hands and feet may be felt to be cold. In a few hours the body is burning hot. This may last from eight to twelve hours, when the heat will grow less, though it will not completely disappear. The decline is generally accompanied by some perspiration. The remission usually occurs in the morning, and the rise commences early in the afternoon. The thirst is great, the tongue coated, and breathing very rapid. When the fever is at its height, there is much restlessness. Delirium and convulsions may possibly occur, if care be not taken.

Remittent fever may also assume a low type, so that the heat can scarcely be felt.

Causes.—Malaria is one cause: a chill stopping the perspiration, the poison produces an attack. But in children it may also arise from teething, improper food, disordered stomach or bowels, worms, &c.

Treatment.—This depends upon the cause, which

should first be ascertained. Where it is malarial, the following course may be followed:—

If there has not been purging, the bowels should be freely opened. Shortly after, the fever mixture should be given every hour. The bed-clothing should be light, and the air of the room pure. The strength should be kept up by light food. A tepid bath at night will tend to produce sleep. Cold may be applied to the head, if it proves grateful to the patient.

When moisture is felt upon the forehead and the heat declines a little, the fever mixture should be stopped, the bed-covering increased, and a full dose of quinine given. Quinine is not advisable when the heat is rising.

As the fever declines the interval of remission lengthens, and the quinine dose may be divided and given twice a day. This should be continued for at least ten days. Chiretta may afterwards be substituted. If weakness continue, the means described under “After Effects of Ague” may be employed.

In severe cases, the cold bath may be tried as directed.

4. *Typhoid or Enteric Fever.*

This fever is called typhoid, because it resembles a dangerous one, called *typhus*. It is called *enteric*, from *enteron*, a Greek word, meaning bowel, from its always affecting the bowels.

A number of European soldiers fall victims every year to enteric fever, but it is rare among European children in India, and amongst the Native races. It usually runs a mild course in childhood, and if well nursed the great majority of cases recover. Lengthened remarks are therefore not necessary.

It is a continued fever, lasting about three weeks, with generally small reddish spots, occurring in crops from the eighth to the twelfth day of the fever. There is great weakness, and more or less diarrhoea.

It is supposed that the poison enters chiefly through polluted water. Wells near privies are a frequent cause. It is horrible to think that people should drink water mixed with urine and excrements. Discharges from the bowels of persons suffering from the fever are especially dangerous. They should at once be taken out of the house and buried deep, far from any well, or, what is better, burnt.

Careful nursing is most important. The strength should be kept up by food every two hours, while the child is awake; but in small quantities at a time. Milk mixed with barley water or thin arrow-root is the best kind of food. Cold water may also be given in the same way. Tamarind water should not be given, as it is purgative. Solid food should not be allowed until a week after the fever has disappeared.

ERUPTIVE FEVERS.

1. *Measles.*

This is an infectious eruptive fever, which generally attacks early in life, and seldom occurs more than once in the same person. It appears between 10 and 14 days after infection. It usually lasts about three weeks, and no medicine, yet known, can stay its course. If properly treated, it is generally mild in this country.

Symptoms.—The disease begins with chilliness, fever, and apparently cold in the head, the eyes and nose are watery, the throat may feel sore, and there is usually some sneezing and cough. On the fourth day, the rash makes its appearance, like small flea-bite red spots. It is first seen on the face, then on the trunk and limbs. It comes out in crops, each lasting for a couple of days. If pressed with the finger, it disappears, returning when pressure is removed. The rash lasts for three days before it begins to fade. The fever goes down, and by the ninth day there is only redness and scaling of the skin.

Treatment.—The child should be confined to bed in a room with plenty of air, but free from draughts. The eyes are weak, so there should be no glare. As the disease is infectious, the other children should be kept out of the room.

Purgatives, as a rule, are to be avoided, there being a tendency to diarrhœa. The patient is always thirsty, and may drink milk and water, toast water, and lemonade. Sponging the body with vinegar and water and dusting it with rice flour, allays irritation of the skin. The strength should be kept up from the beginning with light food, easily digested.

Care should be taken to guard against chills during recovery. The patient should be warmly clad. If the eyes get sore, apply cold pads.

It is not safe for other children to mix with those who have had measles till three weeks after the rash has disappeared; and then only if all clothing has been disinfected and washed.

2. *Scarlet Fever or Scarlatina.*

This is a very infectious continued fever, accompanied by a general red blush over the skin. The throat suffers most. It is prevalent and deadly in England, but so rare in India that it need not be noticed in detail.

3. *Small-Pox.*

This is the eruptive fever most to be dreaded, and highly infectious. The poison germs are given out from the body so long as there are any adherent scabs. Old clothing, &c., may communicate the disease for months, if not years. The attack shows itself about 12 days after the infection has been caught.

Symptoms.—The first stage is that of fever, with shivering, vomiting, head-ache, and pain in the back. On the third day, the eruption appears, in the form of small red pimples, the first crop on the face, the second on the trunk, and the third on the lower limbs. The

feverish symptoms then generally abate in some measure. As the pocks ripen, the skin swells more or less, so that the eyes may become closed. About the eleventh day, the pustules burst and fever returns for a time. In three or four days the scabs begin to dry and fall off, leaving the skin of a spotted colour—which may last a fortnight.

Treatment.—When the disease must run its course, the treatment should be as follows: Place the patient in a cool, well-ventilated room; the bed clothing should be light. Water, rice, congee, or lime juice and water, may be freely allowed. Sponging the body with water or vinegar and water, and dusting the pustules with rice flour, will give great relief. The food should at first consist of milk and arrow-root, congee, bread and milk, &c. A mixture of lime water and cocoanut oil, smeared twice a day over the surface, tends to prevent pitting. During scabbing a warm bath will add greatly to the comfort of the patient. The body should also be gently smeared daily with oil, which keeps the skin moist, and lessens the risk of infection. The patient should not leave his room until all the scabs have fallen off.

The eyes should receive careful attention during small-pox. They should be well bathed, and a little ointment should be applied to the edges if they stick together.

All persons in contact with the patient should be re-vaccinated, if it has not been done before. None else should be allowed to come near. Even persons who have had small-pox should not be permitted to visit the sick, for although they may not take small-pox themselves, they may spread it among others. If the patient cannot be kept quite apart, a good hospital is the best place.

Modified Small-pox.—This is a mild form, which, in a few cases, attacks persons who have been vaccinated. It is important to know that it is as infectious as the worst kind of small-pox.

Vaccination.—It has been mentioned that about

240,000 deaths took place from small-pox in India during 1883-4. As about one in five die, the number of cases must have been about 1,220,000. These 240,000 deaths are like a sacrifice on the altar of an imaginary goddess. It has been shown that careful vaccination in infancy and at puberty is an almost perfect protection against the disease. In a very few cases persons who have been vaccinated take small-pox, but this also happens at times to persons scarred from previous attacks.

As a rule, if children in India have small-pox, the parents are to blame. Vaccination is now practicable in nearly all parts of the country, and should never be neglected. Masters should urge it on their servants and teachers on their pupils. In a few years the disease might be almost unknown.

4. *Chicken Pox.*

This is a mild though infectious complaint which appears three or four days after it has been caught. For about a day there is some fever; then the rash comes out, and the fever almost goes away. On the eighth or ninth day the crusts begin to fall off, and the disease has come to an end.

The fever is very slight compared with small-pox, and the vesicles are large, rounded, and clear.

A child attacked should be kept separate within doors, and take only light food, with a gentle purgative once or twice.

Chicken pox conveys no protection from small-pox.

CROUP.

Croup is a disease of the throat to which children, especially between one year and five years of age, are liable. Cold or exposure to damp is the usual cause.

Croup sometimes comes on suddenly at night, but generally there is for some days a little feverishness, watering of the eyes, and cough. The child suddenly awakens with the appearance of choking and a cough

somewhat like the crowing of a cock or the bark of a dog. The breathing is difficult, and the air is drawn in with a peculiar sound.

Treatment.—If there are symptoms beforehand like those described, the threatened attack, with care, may often be averted. The treatment under “Cold” should be followed.

If there is a sudden sharp attack, an emetic should at once be given. Ipecacuanha wine is best, but after a month or so it loses its virtue. A tea-spoonful of mustard or one-third of a tea-spoonful of salt in some warm water, will serve as a substitute. Sulphate of zinc is sometimes used. Five grains may be dissolved in an ounce of water, and a tea-spoonful given. The vomiting will quickly relieve the throat.

The child should also be put into a bath as hot as the mother’s elbow can bear. After remaining there about 10 minutes, it should be well dried and wrapped in blankets. Sponges or cloths wrung out of hot water may be applied, one after another to the throat till the skin becomes red, after which the part should be wrapped in cotton wool.

The emetic and bath may be repeated in an hour, if needful. If the bowels have not acted, a tea-spoonful of castor oil may afterwards be given.

Croup is apt to return. To prevent this, special care should be taken during cold, damp weather.

COLD.

Symptoms.—A common cold is caused by the stoppage of the pores of the skin checking perspiration. The water and matter which should escape through the skin tries to flow out through the eyes, nose, and mouth. There may also be chilliness, head-ache, some degree of fever, and cough.

Treatment.—The main object is to restore the suppressed perspiration. This may often be secured by putting the feet in hot water, giving a draught of hot infusion of ginger at bed-time and afterwards

covering the body well. For more severe colds, mustard may be added to the hot water. The following morning the patient will generally be better. If the cold is bad the child may be kept in bed for a day or two, on a light diet, with a little paregoric at night. The room should not be too hot, nor the child overloaded with clothes.

Prevention.—Colds, though generally trifling, should not be neglected, as they may lead to other ailments much more serious. Cold bathing, except in the case of sickly children, is a great preservative against cold. Persons accustomed to wash themselves with hot water have been subject to colds from which they were freed by substituting cold water.

Living in close rooms makes people much more susceptible to cold. People seldom catch cold in the open air ; it is draughts through small openings which are dangerous.

Dress should be suitable to the season and weather.

COUGH.

This is not a disease in itself, but a symptom. It may arise from various causes. The common cough is a slight matter. Barley sugar is a very popular remedy with children ; liquorice is another. Glycerine, with a little lime juice, is often useful. So also is inhaling the vapour of hot water. It may be drawn in from the spout of a tea-pot. The addition of some vinegar to the water increases the effect. The treatment for colds is applicable to coughs. In many cases of cough from cold or draughts, there is a slight degree of bronchitis.

BRONCHITIS.

Symptom.—This is an inflammation of the air passages leading to the lungs. It generally commences like a common cold. By degrees there is more fever and restlessness, while there is a short dry cough. The breathing becomes thick and wheezing, and the

child feels as if the chest were stuffed. The wheezing sound may be distinctly heard when the ear is placed on the chest. If the disease grows worse, the child has no strength to cough, and it generally passes away in a sleepy unconscious state.

Causes.—Exposure to cold is the cause. It is more common when north or north-east winds are prevalent. In England it is much more fatal than in India, but it nevertheless requires attention.

Treatment.—A warm bath should be used to encourage the action of the skin. The child clothed in flannel, should then be put to bed. The chest, if necessary, may be well covered with cotton wool. If there is much wheezing of the chest, an emetic of ipecacuanha wine should be given. If the bowels are confined, they should be acted upon by castor oil. If the inflammation is severe, a piece of flannel dipped in hot water, wrung dry, and then sprinkled freely with turpentine, may be applied to the throat for a time, after which it should be covered up with cotton wool. The strength should be maintained by milk, chicken broth, &c. The child should lie with his head high, and be encouraged to cough frequently. The room should be kept of an even temperature, and the patient should be carefully guarded against draughts and cold. During recovery, tonics, as chiretta, should be given.

HOOPING COUGH.*

This is an infectious disease, most common during childhood. It appears about a week after it has been caught. No remedy, yet known, will cut short its course, which usually lasts about six weeks.

Symptoms.—Hooping cough begins like a common cold. The other symptoms soon abate, except the cough which becomes more severe, especially at night. After some days the cough comes on in fits, after which the breath is drawn in with a long effort, ac-

* Called also *Whooping Cough*.

accompanied by a peculiar sound or whoop. In bad cases there may be 30 paroxysms a day, and several fits of coughing without the whoop being heard. Vomiting frequently attends the fits of coughing. The danger of infection lasts six weeks after recovery.

Treatment.—During the first stage, like a common cold, the fever mixture may be given; the clothing should be warm; the bowel should receive attention, and the diet should be simple and nourishing. In the second stage, three grains of alum in a little water every fourth hour will be found useful. In the intervals between the fits, the chest should be rubbed daily with equal parts of brandy and sesamum oil. If the mucus is so great as to hinder breathing, an emetic can be given. A hot bath at night will afford some relief. During the fits of coughing the child's back should be supported with one hand, and the forehead should be supported with the other. Mucus coughed up should be wiped away, and the back should be gently rubbed. During the third stage, when there is sometimes much weakness, tonics, as quinine and iron, should be given.

CONSTIPATION.

Constipation is common among children. The stools are often like little balls, scanty, hard and white in colour from the bile being unable to penetrate them.

Medicine should be avoided if possible. As already mentioned, regularity in relieving the bowels is of much importance. A change of diet will often effect a cure. Oatmeal, brown bread, treacle, and ripe fruit are all useful. Friction over the bowels with cocoanut oil, from above downwards, is beneficial. The soap enema may be tried if necessary. A glass of cold water on rising each morning often cures slight cases.

DIARRHŒA.

The symptoms of this disease are well known. It is a sign that something is wrong, and should never be

neglected. Continued diarrhœa is very weakening, and causes many deaths.

Most people think that the great remedy in diarrhœa is to give astringent medicines, those which, as it were, bind up the bowels. In some cases they are useful and should be given at once; in others they would increase the danger by confining unwholesome matter within the bowels.

Diarrhœa may arise from various causes. Infantile diarrhœa has already been noticed. Worms may be a cause. Directions will be given with regard to two frequent forms.

Imprudence in diet, &c.—Diarrhœa may be caused by indigestible food, as unripe fruit or ripe fruit in excess, badly cooked vegetables, from kitchen utensils not being properly tinned, &c. Impure water and air are other frequent causes.

Treatment.—Purging is often nature's remedy to free the bowels of substances which are irritating them. No medicine is needed; rest and light food in moderation will often effect a cure. In many cases hot milk has been found useful.

Should the irritating matter not be removed, a dose of castor oil may be given. No animal food or vegetables should be allowed. The body should be kept warm, especially over the belly; without this other means will often go for nothing.

If the diarrhœa still continue, astringents should be employed. Three grains of finely powdered kino, with an equal quantity of powdered cinnamon, may be given three times a day. Chlorodyne is another useful remedy.

In obstinate diarrhœa, when unattended by fever, the bael fruit is of much value. So also is the decoction of pomegranate rind.

Changes in the Weather.—Diarrhœa may arise from this cause, as at the commencement of the monsoon, from exposure to the cold morning air, to draughts, &c. This kind of diarrhœa, if the person is not otherwise in bad health, generally soon passes away.

No purgative medicine should be given, a dose of chlorodyne being better. To guard against it, children should not sleep in draughts, and they should have warm clothing. A flannel belt is a great protection. Hot tea or coffee before going out in the morning is another safeguard.

DYSENTERY.

Dysentery arises from much the same causes as diarrhœa. Exposure to the night air during sleep, especially if the wind has been allowed to play on the bowels, is not unfrequently followed by an attack of dysentery. It is known by griping pains in the lower bowels, and by blood and mucus, a kind of slimy matter, in the stools. In severe cases at last nothing but bloody slime is passed, with great pain and straining.

Treatment.—Any unwholesome matter in the bowels should first be cleared out by castor oil, and great care should then be taken about the food. The body should be kept warm, and a flannel belt worn round the belly. Ipecacuanha is a valuable remedy. See page 90. Bael and pomegranate rind may be used as in diarrhœa.

Dysentery is very apt to return. Great caution is afterwards necessary.

CHOLERA.

This disease is justly much dreaded on account of its sudden and often fatal course. It is very unusual among children under one year of age, but the liability afterwards gradually increases.

Cause.—Cholera is supposed to be spread by a certain kind of poison germ or seed, the nature of which is not yet fully understood. As explained in the "Germ Theory of Disease," whether it will spring up depends upon its finding a fitting soil. A weak state of health and filth are the two conditions most favorable to its growth. Some suppose that water,

containing matter from the stomach or bowels of those attacked, is a frequent means by which the poison is conveyed. But there is still much uncertainty about the disease, and its mode of spreading.

Symptoms.

Cholera sometimes comes on suddenly. The seizure often occurs during the night or in the early morning. Generally, however, it is preceded by a feeling of uneasiness and diarrhoea. Ordinarily the first stools are painless and like those in simple diarrhoea. Griping in the bowels is then usually felt, followed by frequent watery purging and vomiting. The stools resemble rice water. Severe cramps, commencing in the fingers and toes, quickly spread to the calves, thighs and muscles of the belly. There is great thirst, and an urgent cry for water. A feeling of burning heat is felt in the stomach; the pulse is feeble, the urine is scanty, and at last none is passed. The patient is very restless. As the disease advances, the eyes become sunken, the skin is cold, and covered with a clammy sweat.

Favourable signs are the stoppage of vomiting and purging, the passage of urine, and the pulse recovering force.

In some cases the cramps are much less felt than usual. Most deaths happen in the beginning or middle of an epidemic. A larger proportion of recoveries shows that the disease is abating.

Treatment.

A great many remedies have been proposed for cholera, but none has yet been found which is a certain cure. The disease varies somewhat, and experience is necessary to show which medicines may best be used.

The three points to be most strongly urged are, perhaps the following:—

1. The careful use of preventive measures.
2. Immediate treatment.

3. Good nursing. Dr. Chevers says, "I know of no disease in which so much benefit may be obtained from *good nursing* as in Cholera."

When cholera is about, a supply of the most useful medicines should be provided. The attack often commences at night, and time would be lost in sending for medicines. Life depends upon prompt treatment; delay even for an hour or two may be fatal. But medical aid should also be sought at the first symptoms of the disease, and the messenger should make known the nature of the case, that the needful medicines may be provided. The patient should at once go to bed, and be kept moderately warm.

This little book specially refers to the diseases of *children*. Medicines suitable for adults do not always answer for them. Dr. Birch recommends that "cholera pills" and "cholera mixtures" should not be given to children, as they contain so much opium as to be dangerous.

The slightest approach to diarrhœa should receive immediate attention. A dose of chlorodyne, corresponding to the age of the child, will often cut short the purging. This may be repeated every two hours, if necessary. Another remedy recommended is a mixture of alum, catechu and cinnamon, of each powdered ten grains, and mixed up with honey. This may be divided into from two to three doses, and repeated every hour or two. The spirit of camphor has often been found beneficial. The dose may vary from 5 to 10 drops according to age, every half hour.

When the patient both vomits and purges, medicines in the form of pills are retained in the stomach better than draughts or mixtures. In South India, "Patterson's Cholera Pills" are well known. These and others mentioned under "Medicines" (Page 88) can best be obtained from a chemist.

The directions accompanying "Patterson's Pills" state that a child from 4 to 6 years old may take half a pill broken up in a little congee water, to be

repeated every $\frac{1}{4}$ or $\frac{1}{2}$ hour according to the urgency of the case till vomiting and purging are checked. The greatest number of pills to be taken by a child of that age is four. A child from 7 to 15 years may take a whole pill broken up, the maximum number being eight. An adult may take two pills at once up to 12.

Cholera pills, without opium, suitable for children, can also be obtained from Government Stores.

It is not to be supposed that all the foregoing medicines ought to be used. This would be very dangerous. Opium in excess is especially to be avoided. Several remedies are mentioned, because some of them may not be available.

At an early stage a mustard poultice, separated from the skin by thin muslin, should be applied over the bowels. A piece of flannel, dipped in warm turpentine, will serve the same purpose. It should be covered immediately with another piece of flannel well heated.

Turpentine or a mustard poultice on the stomach tends to check vomiting. A further remedy is to give about 12 grains of bicarbonate of soda in a little water.

Cramps and cold are best relieved by friction with the hand, by the application of hot bags of sand, salt, &c., by cloths, well wet with warm turpentine or by mustard poultices.

To induce the flow of urine, a quarter of a tea-spoonful* of sweet spirits of nitre in a little water may be given every three hours. The danger of collapse is not over until urine has been passed.

Under Native treatment water is often forbidden; but this is a great mistake. The great thirst shows that it is needed. The watery part of the blood is largely drained away, and water when drunk helps to supply it. Although vomited at first, it should be given, a little at a time, but frequently. Ice, if available, may be kept constantly in the mouth.

* Or rather more according to age.

It is of great importance to keep the patient quiet. Even speaking should not be allowed. A cheery word to him now and then will do no harm, but no remarks should be made in his hearing about the increase of the disease, &c. He should not be allowed to raise himself. The circulation is very feeble, and the effort has been followed by death. Even in feeding or giving medicine, the head should be very little raised.

If the patient can take any food, milk, rice congee or chicken pepper-water, may be given in small quantities at a time.

In a state of collapse, when the body becomes cold and clammy, most medicines only do harm. It is good nursing that is chiefly needed. The great aim should be to keep up the heat in every way that will not fatigue the patient. The limbs ought to be kept stretched out, and frequently rubbed with the hand. Mustard poultices or turpentine may be applied to the calves of the legs, to the back of the neck, and over the heart.

In some cases strong green tea, in tea-spoonful doses, with six or eight drops of aromatic spirit of ammonia, is of great benefit. Camphor water may be substituted for tea if not available.

If *reaction* takes place, the coldness of the surface is followed by heat of the skin. The heat may be moderated by sponging and cold cloths applied to the head. Great care is still necessary. No solids whatever should be given until the symptoms have disappeared.

. Prevention of Cholera.

Every possible means of keeping the body in good health should be taken. Weakness, however caused, predisposes to the disease. All ceremonies requiring exposure to the night air, fasting, fatigue, loss of sleep, &c., should be avoided.

Food.—Use only wholesome food. Cold cooked food, especially that which has stood all night, is

dangerous. Avoid unripe or decaying fruit, tainted meat and fish, raw vegetables and articles difficult of digestion, and known to be liable to cause purging. Let meals be taken at regular times. Avoid excess in eating and drinking. It is a mistake to suppose that the use of spirituous liquors is preventive of cholera. Purgative medicines, especially Epsom salts, should not be taken without good medical advice. The free use of salt has been recommended, but not in such quantities as to cause looseness.

Water.—It is most important that this should be pure. It ought to be boiled before it is used for drinking purposes. Tea is a good drink during the prevalence of cholera. Milk is sometimes mixed with impure water. Boiling is a safeguard.

Clothing.—This should be warm. A flannel belt is a great protection. The feet should be kept warm and dry.

Houses.—Rooms should be well-ventilated, and there should be no overcrowding. Cleanliness is of the utmost consequence. Houses should be whitewashed. If there is an offensive smell proceeding from any part of the house, it should be searched out, and disinfectants used. People should sleep on cots rather than on the floor.

All filth, rotting vegetable and animal matter, &c., should be taken away. The compound should be swept clean, and the rubbish burnt. Drains should be flushed with water. Privies should be carefully watched, and cleaned out once or twice daily.

After the disease has actually made its appearance, more harm than good may be done by opening up foul drains and cesspits. Covering up rubbish with dry earth may then be adopted as a temporary measure. Future accumulations should be prevented.

Most of the foregoing directions may be summed up in one word—CLEANLINESS.

Prayer to God.—The midnight ceremonies to which people resort tend to spread the disease from exposure to the night air, fatigue, and loss of sleep; while the

measures which would be really beneficial are neglected. The reader should provide the most useful medicines beforehand, as spiced arrack, chlorodyne, cholera pills, turpentine, spirit of camphor, sweet spirits of nitre, bicarbonate of soda, and aromatic spirits of ammonia. He may then commit himself and his family to God's care. Fear predisposes to an attack. After proper precautions have been taken, the disease should not be spoken of or thought about.

Precautions to Prevent the spread of Cholera.

The number of deaths from cholera is probably doubled from the neglect of measures to prevent its spread. It is not uncommon for people to eat, drink and smoke in the same room in which the sufferer is lying. A vessel from which he drank is sometimes dipped into the family supply of water.

All who are not required to wait on the sick should, if possible, be sent away to another house. No others should be allowed to come near. They make the air more impure, and they weaken the patient who should be kept perfectly quiet. Water, food, clothes, &c., should not be taken from the house to other houses. The attendants should wash themselves frequently. Great care should be taken not to lift the fingers to the mouth after touching a patient or any article which he used. Hands should especially be washed before eating, and food should never be taken in the sick room. If these directions are followed, there is little danger to the attendants.

The motions and vomited matter are supposed to be the chief means of conveying the poison. They should never be thrown into the common privy. Some disinfectant, as sulphate of iron,* should be put in the vessel in which they are collected, and they should be at once buried at a distance from any house or well. A better plan is to burn them in an earthen pot over a fire.

* Ashes or fresh slaked lime may be used, if better disinfectant are not available. See page 88.

Mats and other articles used by the patient which cannot easily be cleaned should be burnt. This is also the safest course with the clothing. If not, it should be thoroughly disinfected. The clothes should be boiled for two hours, and the washing should be done at a distance from the well, lest the water be contaminated.

When a death occurs from cholera, persons should not come into the room where the corpse is. The burial should take place as soon as possible. The best plan is to burn or bury the body with the soiled clothing. The value of the clothing is as nothing compared with the risk of keeping it.

Relatives should not weaken themselves by fasting after a death.

The *place* where a person gets the disease seems to be dangerous. The house should, if possible, be left at once for eight or ten days. It should be disinfected by closing the doors and windows, and placing in it pans of burning charcoal on which a quantity of sulphur powder has been thrown. The house should remain closed for some hours. After this, the rooms having been opened and ventilated, the walls should be scraped, fresh whitewashed, the old earth from the floors removed, and fresh earth used to replace it.

WORMS.

There are three kinds of worms which trouble children, namely, the thread-worm, the round-worm, and the tape-worm. The *thread-worm* is somewhat like a piece of thread, about a quarter of an inch long. It moves briskly about on the surface of the child's motions. Among older children it is the most common of all kinds. The *round-worm* is like a common earthworm in shape, but white in colour. The *tape-worm* is flat, long and jointed, sometimes attaining the length of 20 feet. Its round head is only about the size of the head of a pin.

Symptoms.—The only sure sign of worms is the

sight of them. Disordered bowels, unsatisfactory general health, restlessness at night, grinding the teeth, picking at the nose, voracious appetite, and puffiness of the belly, are the general symptoms ; but they are not decisive.

Treatment.—The objects are to kill the worms, to expel them, and remedy the injury. It is first necessary to know the kind of worm which has to be dealt with. For this purpose the child's motions should be washed and examined every day till the species of worm has been ascertained. It is not desirable to give medicine till this is known.

Thread-worm.—Give early in the morning a dose of castor oil. Light food should be taken throughout the day. In the evening soap and warm water should be injected into the bowel to wash it out. Then a tea-spoonful of common salt dissolved in four ounces of water should be injected and retained for a few minutes. This is assisted by holding a cloth to the opening. It may be necessary to repeat this treatment for two or three days running. Citrate of iron and quinine or chiretta may then be given for a few days.

Round-worm.—Give a dose of castor oil very early in the morning, and only a small quantity of food, like thick conjee, during the day, and another dose of castor oil at night. The worm is thus laid bare and exposed to the action of santonin powder, of which 3 or 4 grains may be given in early next morning on an empty stomach. A single dose often effects a cure ; but it may be repeated, if necessary, every second or third day.

Tape-worm.—This is often expelled in part, but while the head remains, the case is not cured—the worm grows again. Santonin is of little or no use in tape-worm. For a few days before giving the worm destroyer, little vegetable food should be taken especially plantains and potatoes. A dose of castor oil may then be given at night. Take of fresh pomegranate root bark sliced two ounces, water two pints. Boil down to one pint and strain. A table-spoonful

should be taken fasting, and a similar dose should be repeated every half-hour until four draughts have been taken. If the bowels have not been freely acted upon, a dose of castor oil should be given. The worm will probably pass away with the motions.

For older children turpentine is the most certain remedy. One drachm, or rather more, may be given with an equal quantity of castor oil. It is best taken 3 hours after a meal. The patient should remain quiet, and broth should be taken during its operation.

Prevention.—The principal means are the following:—1. Pure drinking water. 2. Washing all uncooked vegetables with a *stream* of pure water. 3. The thorough cooking of all animal food, especially pork, from which tape-worms originate. 4. The daily use of salt.

GUINEA WORM.

This generally takes the appearance of a boil on the leg. When it breaks or is opened, the end of the worm may be found. It should be seized and fastened to a quill. With great care it may be drawn out, little by little, once each day. A stream of water over the part will often assist extraction.

If the worm breaks, abscess and fever are the general result, sometimes causing long and dangerous illness. Some native doctors are skilful in extracting the worm, and one of them should be employed, if possible.

Dirty tanks and wells are the chief cause of guinea-worm.

ITCH.

This is a contagious disease, caused by a small insect which burrows beneath the skin. It commences as an eruption of small blisters, generally between the fingers, afterwards spreading to other parts of the body. The itching is intolerable, especially at night. If neglected, troublesome sores may be the result.

Treatment.—After cleansing the parts with soap and hot water, an ointment made of sulphur and ghee or oil should be thoroughly rubbed in till the pustules are broken. It is not necessary to rub it all over the body. It is best rubbed in at night before going to bed, allowing it to remain on the whole night, and then washing it off in the morning with soap and hot water. This should be repeated every night till a cure is effected. If the ointment is properly rubbed in, three or four applications are generally sufficient.

The patient should not resume his clothes till they have been *boiled*. Simply washing them in hot water does not destroy the germ of infection.

Some other forms of skin disease improve under the use of sulphur ointment.

The smell of sulphur is an objection to its use. A solution of one ounce of sulphate of copper in a pint of water will sometimes effect a cure. Previous to its use, the pustules should be rubbed off. Carbolic soap is another remedy.

Cleanliness is the great safeguard against itch; but the most cleanly may take the disease by contact. A child suffering from itch should be kept apart.

BOILS, ETC.

Boils are of various kinds. They are common in India, either occurring singly, or several at one time, or in successive crops. They may vary in size from that of a pea to a hen's egg or larger. In some cases they disappear without the formation of matter, in which case they are often called "*blind boils*." Very large boils are called *carbuncles* or "*Raja boils*." An *abscess* differs from a boil in not containing a central part, called the "*core*." *Ulcers* are raw open sores, generally lower than the surrounding surface.

Causes.—The chief cause is poverty of blood, arising from heat, improper food, attacks of fever, &c.

They are a proof that something is wrong in the system.

Treatment.—Whatever strengthens the body and improves the general health, tends to the removal of boils. Fresh air, pure water, good food, exercise, and cleanliness should all receive attention. If the tongue is foul, aperient medicine may be required. Fresh country sarsaparilla is a useful tonic. When the boils result from fever, quinine should be given.

In general, water dressing is better than poultices or ointments. It consists of a double fold of linen, soaked in water and applied to the part. To prevent the water drying, a covering of oil silk or young plantain leaf should be laid over the cloth. Either warm, tepid, or cold water may be used as most agreeable. The dressing should be changed twice or thrice a day.

When there is a throbbing pain showing that matter is forming, a hot poultice of linseed-meal, rice flour, or bread, may be applied. It should be changed every four hours. At each change the part should be well bathed with hot water. When the boil is small and long in coming to a head, a mixture of yellow soap and sugar, spread on leather, may be applied. It should be kept in place by a bandage.

Pain is relieved by keeping the part raised and by a datura poultice.

When ripe, the boil or abscess should be opened, to let the matter flow out. Afterwards, with a soft sponge and warm water, as much more matter may be pressed out as can be done without pain. Poultices may then be applied until all discharge ceases. Ulcers or sores remaining after a boil ceases to discharge matter, should be treated by water dressing.

Bad ulcers, after they have burst, are often much benefited by pouring a stream of water upon them for half an hour twice daily. At each time more or less of the matter is washed away. Toddy poultices may be applied between the pouring, and cold water dressing afterwards used.

HEADACHE.

This disorder arises from different causes, and the treatment must vary accordingly.

A simple headache very often comes from exhaustion or exposure to the sun. Lying quiet, a cup of tea, and sleep, will generally afford relief.

If there be costiveness and nausea, a gentle purge should be taken.

Sometimes in headache the head is hot and the face flushed. In this case let the child lie with the head raised, and cover the forehead and temples with a cloth, wet occasionally. A mustard plaster to the nape of the neck is sometimes required. In rheumatic and nervous headaches a useful application is one ounce of camphor dissolved in a pint of vinegar and then diluted with one or two pints of water. Cloths steeped in it should be kept constantly on the part.

Sal ammoniac, in doses of 5 to 8 grains twice daily, dissolved in camphor water, is often of service in nervous and bilious headaches.

Headaches are frequently connected with some disease along with which they must be treated.

SUNSTROKE.

Sunstroke is a very sudden and severe attack of fever, produced by the heat of the sun. The temperature reaches nearly the limit beyond which life is impossible. If passed, death is the result.

The patient may be instantly struck down by the sun, or the attack may be more gradual. It is sometimes preceded by giddiness. The face is generally flushed, the eyes are fixed, the breathing is rapid, the skin burning hot; the patient is insensible and appears as if dying.

The head dress and upper clothing should at once be removed, and the patient held in a sitting posture. Water, as cold as it can be obtained, should then be poured in a stream, at the height of 2 or 3 feet

over the head, back and chest. The back part of the head and upper portion of the back should receive most water.

After a minute or two the patient will probably heave a deep sigh. The pouring should at once be discontinued, the patient thoroughly dried with a warm cloth, and diligent friction maintained till full consciousness is restored. Mustard poultices or turpentine should be applied to the nape of the neck and feet, if insensibility be long continued.

When the patient can swallow, he should be encouraged to drink freely of cold water. As soon as possible, a purgative should be given. Care is necessary for some time.

In what is called heat fainting, when the patient is giddy, sick, and shivering, he should be laid on his back, the clothing loosened, the limbs rubbed, and a stimulant given in the shape of brandy and water. If the symptoms run on to sunstroke, the foregoing means should be used.

Sunstroke may be prevented by wearing a proper head-dress and protecting the spine or backbone: by loose clothing around the neck and chest; and by wetting the head-dress with water when obliged to go out in the sun. Drinking cold water plentifully is another safeguard.

FAINTING.

This may arise from loss of blood, fright, heat, want of fresh air, or from diseases peculiar to women. The pulse is feeble, the breathing scarcely perceptible, the lips white, and the patient looks as if dead. The body should at once be laid flat, with the head lowest that the blood may flow into it more readily. The clothing about the neck should be loosened. Cold water should be dashed on the face. If necessary, the limbs should be well rubbed. A burnt feather held smoking under the nose is a good restorative. In prolonged faints, a mustard poultice may be applied over the heart.

For the *prevention* of a fainting fit, the best course is to lie down at full length without a pillow. If not able to lie down, the head should be bent forward between the legs.

SORE EYES OR OPHTHALMIA.

Ophthalmia (from *ophthalmos*, a Greek word signifying the eye) is very common in India. In its severe forms it is very infectious and spreads rapidly. Small particles of matter drying up, float in the air and may infect other eyes. Flies also carry the contagion.

Symptoms.—The attack begins with heat, and a feeling as if sand were in the eye. Light is painful, and the eye is watery. The discharge is first clear, and then becomes thicker and of a white colour. During sleep it collects at the lids, gluing together the eyelashes, and requiring them to be bathed with warm water before they can be opened.

Treatment.—The patient should be kept in a darkened room, with a green shade of plantain leaf over the eyes. In mild cases the eyes need simply be bathed frequently with warm milk and water. A few drops of alum and water (4 to 8 grains to an ounce) may be dropped three or four times a day into the eye. A purgative should be given if the bowels are confined. When the eyelids are red and swollen, hot poppy water often affords much relief. The edges of the lids should be anointed every night with sweet oil to keep them from sticking.

Boracic acid, in solution, from 5 to 10 grains to the ounce of water, is a safe, painless, and effective remedy.

In sore eyes, with copious discharge, a solution of one grain of sulphate of copper in an ounce of water, applied several times a day will be found useful. In obstinate cases the strength may be doubled, but it should never be so strong as to cause pain.

Severe Ophthalmia.—Sometimes the inflammation attacks the deeper parts of the eye, and it is destroyed.

Skilled medical advice should be obtained, if possible. The eye should be well washed every two or three hours with hot poppy water. When the violence of the inflammation subsides, the alum lotion should be used as directed above.

Nitrate of silver, in the strength of 10 grains to an ounce of water, sometimes succeed, when other remedies fail. A drop should be let fall into the eye twice daily. It is painful, but often very serviceable.

Force should not be used to separate the eyelashes in ophthalmia. An ulcerated eye has thus been burst.

Particles of Dust, &c.—These sometimes get into the eye. Opening and shutting the eye in clean water will often remove them. The eyelid may be turned back and the particle picked off with a feather. Another plan is to draw the upper eyelid well over the under one as far as possible for a few seconds.

Particles of lime may be dissolved and removed by a mixture of vinegar and water, not strong enough to cause smarting. It requires to be introduced between the eyelids.

THE EAR.

The ear is subject to several ailments.

Wax in the Ear.—This sometimes accumulates, causing deafness. It should be never removed by a sharp instrument. The thin skin, called the drum of the ear, may thus be destroyed. Drop a little sesamum oil into the ear at night to soften the wax, and in the morning wash it out with a little warm water. Again put in a drop of oil, and put cotton wool to prevent cold afterwards.

Ear-ache.—This often arises from blasts of cold air. It is distinguished from inflammation of the ear by the absence of fever and throbbing. A small mustard poultice behind the ear is sometimes useful. A mixture of equal parts of laudanum and sesamum oil may be dropped into the ear, or inserted by means of cotton wool.

Inflammation.—This is known by the throbbing, attended with fever. In severe cases a doctor should be consulted.

TOOTHACHE.

Proper care of the teeth will do much to prevent any attack of this painful complaint. Various local remedies are recommended, as camphor, turpentine, &c. Sometimes a good purgative has most effect.

ACCIDENTS.

Accidents, such as wounds, burns, &c., happen now and then. It is well to know what should be done in such cases. Much suffering may be prevented, and even lives preserved.

General Directions.—If a person is seriously injured by a fall or a blow, he should be made to lie down with the head a little raised. If faint or insensible, loosen anything tight about the neck. The face and neck may be sprinkled with cold water, and then wiped dry. If necessary to move a person after injury, especially of the head, the patient should be carried while lying down; he should not be allowed even to sit upright. Medical aid should be obtained as early as possible.

Bleeding.—Slight bleeding from a wound may in general be stopped by sponging the part with cold water. If more plentiful, press the wound with the finger or a hard cloth pad.

If the blood is flowing fast, press the point of the finger on the bleeding spot. Then tie a handkerchief, if possible *above* the wound; pass a stick between the handkerchief, and the limb, and twist it until the blood ceases to flow. The patient should lie down and keep very quiet until the doctor comes. The bleeding part should be raised as high as possible. This lessens the flow of blood. Severe tightening should

not be kept long as it would do much harm. The pressure should be gradually loosened.

Bleeding from the Nose.—This may often be stopped by the child standing upright and holding up his arms. A piece of cold metal applied to the back of the neck is another remedy, the nostrils being compressed with the fingers at the same time. If the bleeding is obstinate, stuff the nostrils with cotton wool, steeped in a strong solution of alum and water. Snuffing powdered alum will sometimes suffice. A pinch of powdered alum stops the flow of blood from a leech bite.

Bruises.—By these are understood injuries when the skin is not broken. To prevent swelling after a blow, dip a cloth in cold water, roll it up, press it on the part, and tie it on with a bandage. In slight bruises a cooling lotion of vinegar and water will be sufficient. When the skin is discoloured and pain felt, tincture of arnica, painted over the injured part, is an excellent remedy.

For more serious bruises keep the part well raised, lying on a pillow, and apply cloths dipped in hot water. After two days the hot fomentations may be *gradually* discontinued, and a cold lotion, composed of one part of vinegar and four parts of water, may be employed.

Burns and Scalds.—A *slight* burn or scald will be relieved by keeping cloth on it wet with water. If rather more severe, a piece of plantain leaf, soaked in cocoanut oil, may be laid over the part.

For severe burns carron oil, a mixture of linseed oil and lime water, is the best dressing. If it cannot be obtained, cocoanut oil may be used. If the skin adhere to any part of the dress, the piece of the latter should be left, rather than the skin be torn in taking it away. The first dressings should not be removed for two days, after which the parts should be dressed daily. Blisters should be pricked, but the skin should not be removed, as it helps to protect the raw surface beneath. In the case of severe burns, medical help should be obtained.

Clothes catching Fire—If a woman's clothes catch fire, instead of running about, which will fan the flame, she should lie on the ground and roll, which will put it out. Water, if at hand, should be dashed on the person. A thick cloth, wrapped round, stifles the flames.

Choking.—Try to pull out or force down with the finger what is sticking in the throat. A smart slap on the back or dashing cold water on the face, sometimes gives relief.

If money, &c., get into the *windpipe*, the child may be held up with the head down, and the back should be gently tapped.

A fish bone sticking in the throat may often be removed by the finger. Sometimes a large mouthful of rice or bread well chewed and swallowed, will sweep it down.

Children sometimes swallow marbles or nuts. They generally pass away through the bowels without doing harm.

Dislocations.—When the head of a bone slips out of its place, it is said to be dislocated. The free motion is lost and the shape is changed. The person should be carried at once to a doctor.

The caution has been given not to drag children by the arms as it is easily put out of joint.

Drowning.—Girls sometimes fall into wells when drawing water. They should be taken out as soon as possible, and means used to restore animation.

Death comes in drowning, because the air cannot enter the lungs through the water. If we can get a person who is nearly drowned to *breathe*, he will recover.

Treat the case instantly. First, to allow the escape of water from the chest, place the body for a few seconds on the face, the head lower than the feet, and the mouth open.* Next place the patient on his back, with head and shoulders raised by a cushion. Cleanse

* The body should never be held up by the feet.

the mouth and nostrils. Open the mouth and pull the tongue gently forward to allow the air to enter.

To draw air into the lungs, grasp the patient's arms above the elbows, and lift the arms up till they meet above the head. After two seconds, turn down the arms and press them firmly against the sides of the chest. Do this fifteen times every minute for an hour or more if needed. The object is to induce breathing. Tickling the throat with a feather is useful. Snuff may also be employed.

The circulation and warmth should next be restored by wrapping the patient in warm clothing, and rubbing the body. Bags of warm sand or bottles of warm water should also be applied.

When the power of swallowing has returned, a teaspoonful of warm coffee or warm water and arrack should be given.

By skilful treatment, persons have sometimes been recovered when apparently dead for three hours.

Fractures.—A bone is known to be broken by alteration in the shape of the limb and the ends of the bones grating against each other when the part is handled. Medical help should be sought at once. The patient ought to be moved as little, as possible, lest the ends of the bones tear the flesh.

Potters are often employed by Natives in cases of fracture. They do not make allowance for the swelling of the limb, and sometimes, the limb mortifies or dies.

Mad Dog Bites.—See Snake Bites.

Poisons.—Poisoning by arsenic begins with faintness, followed by violent vomiting, a burning pain in the stomach, diarrhœa, great restlessness, and death. The effects of poisoning from the green rust of copper vessels are somewhat similar. Opium causes deep sleep. Datura poisoning begins with giddiness, ending with a total loss of consciousness.

The first thing is to remove the poison by vomiting. A large spoonful of mustard or salt in warm water will often do this. The throat may be tickled with the

thin end of a feather, and draughts of warm water should be taken. Sulphate of copper or zinc is a still stronger emetic.

For *arsenic* or *copper rust*, the white of eggs in water, or milk and oil, if there are no eggs available, should be given in large quantities. For *opium* poisoning, give the strongest coffee every 20 minutes till the eyes begin to open. The patient should be kept from sleeping by dashing cold water on his face, by beating the palms of the hands, and by walking him about the room. For *datura*, cold water should be poured on the head and spine. After the emetic has ceased, give castor oil or place two drops of croton oil on the back of the tongue. Also give laudanum every half hour until the pupils of the eyes begin to contract. The dose for an adult is 20 drops.

Snake Bites, &c.—Innocent snakes are often supposed to be poisonous, and there is unnecessary alarm. Only a few dogs which bite people have hydrophobia. When a bite is inflicted through clothing, it is not nearly so dangerous as when a naked part has been bitten.

For the bite of a poisonous snake or mad dog, first, if possible, tie a string very tightly round the limb two or three inches above the wound. Then let the wound be well sucked. Afterwards, or at first if it cannot be sucked, make small cuts all round the wound, and encourage bleeding by hot water. After bleeding has ceased, a red hot iron or a few drops of carbolic or nitric acid may be applied to the wound. If the patient will not allow cutting, these applications should be used at first. A pinch of gunpowder placed in the wound and set on fire will also answer the purpose. If these things are not available, suction should be continued, care being taken that the person doing it has no sore in the mouth or lips.

If the bite be on a part where a string cannot be tied, pinch up the skin over the bite and cut out a circular bit as large as the finger nail and $\frac{1}{4}$ to $\frac{1}{2}$ an inch in depth. Then apply a hot iron, &c., as before mentioned.

Brandy, or arrack, or still better, strong *liquor ammoniac* should be given every 15 minutes. A cloth, wet with spirits of turpentine, if available, should be applied over the heart and stomach. The tight cord should not be kept on too long or the parts will mortify. If the snake has not been poisonous, it should be taken off in half an hour; in other cases as soon as the patient is recovering or the parts become cold and black.

Scorpion stings, &c.—Suck the wound and apply a poultice of ipecacuanha powder and water. If not available, a piece of cloth dipped in vinegar or a strong solution of salt and water may be laid on the part. Oil is also soothing.

If the sting of a bee or wasp is left, press the tube of a small key over the part, and the sting will probably start out.

Sprains.—Perfect rest is the chief cure. If the wrist is injured, it should be hung in a sling. If the ankle, the patient must lie or sit with his leg immovable on a couch or stool.

Cloths may be wrapt round the part, and wet with warm or cold water as the patient wishes. The joint remains weak for some time, and care should be taken.

Wounds.—Wounds, if not very large are best healed by tying them up in the blood by means of a strip of cloth, or with sticking-plaster. Should any dirt have got in, it should first be washed away by letting tepid water full upon the wound in a gentle stream. Wounds should be well covered to prevent flies from getting in and breeding maggots.

Wounds sometimes cause tetanus or lockjaw, so they should not be neglected.

MEDICINES AND PREPARATIONS.

Some short notices will be given under this head ; but the caution will again be repeated, *Give as little medicine as possible*. Try to secure the object by diet or other means. It would be better for parents to be without medicines than to be frequently dosing their children.

Persons at outstations can easily obtain medicines from cities by banghy post.

MEDICAL WEIGHTS AND MEASURES.

Weights.—Medicines are sold by ordinary weight, but they are compounded as follows: 20 grains make 1 scruple, 3 scruples=1 drachm or dram, 8 drams=1 ounce, 12 ounces=1 pound.

Every family with a supply of medicines should have a set of scales and weights. English boxes containing these may be had in the Presidency cities for about 3 Rs. A small set of scales, such as is used by native jewellers, can be procured for a few annas in every bazaar. Care, however, is necessary to see that the balance is strictly correct and even.

A rupee weighs 180 grains, or 3 drachms. A half rupee weighs 90 grains or $1\frac{1}{2}$ drachms. A quarter rupee weighs 45 grains or three-quarters of a drachm.

To obtain smaller weights, beat a new quarter rupee into a long thin narrow plate, and divide it carefully into three equal parts. You have thus three 15 grain weights. One of these divided again into three equal parts furnishes three 5 grain weights. One of these subdivided into five equal parts furnishes five 1 grain weights. Care should be taken to see that the parts are of equal weight, and each part should be marked with a figure to denote its weight. A native goldsmith, at a very small cost, will divide the quarter rupee into the requisite parts.*

* Waring's *Bazaar Medicines*.

Rupees $2\frac{1}{2}$ together weigh slightly over one ounce.

Measures.—20 minims or drops = 1 scruple, 3 fluid scruples, 1 fluid dram = 8 fluid drams = 1 ounce, 20 fluid ounces = 1 pint, 8 pints = 1 gallon.

A graduated glass measure should also be provided. 60 drops are equal to an ordinary-sized tea-spoonful. A dessert spoonful is equal to about 2 tea-spoonfuls. A table spoonful is about half an ounce.

Proportionate Doses.

A child under 1 year will require only $\frac{1}{12}$ of the dose for an adult; under 2 years $\frac{1}{8}$; under 3 years, $\frac{1}{6}$; under 4 years, $\frac{1}{4}$; under 7 years, $\frac{1}{3}$; under 14 years, $\frac{1}{2}$; under 20 years, $\frac{2}{3}$.

Men generally need larger doses than women. Judgment is necessary; constitution, especially those of children, differ. It is better to give too small than too large a dose. The medicine can be repeated if required.

Many vegetable medicines lose their strength when long kept.

MEDICINES.

Several medicines are POISONS. This should always be clearly marked outside.

Alum.—*Hindustani*, Phitkari; *Tamil*, Padikaram. Useful for country sore-eyes. For children, 3 grains to an ounce of water is sufficient; for adults double this strength should be used. Outwardly and inwardly, alum is a valuable astringent. It is used to stop bleeding and in diarrhœa.

Ammonia, Aromatic Spirit of.—Also called *Spirit of Sal Volatile*. It is used in headache, sinking of the vital powers, as in cholera, fainting, &c. In very small doses it is useful for children suffering from wind or colic. To infants, from 6 to 12 months old, 5 to 8 drops may be given in a tea-spoonful of water. The dose for an adult is half a drachm to a drachm.

Arnica, Tincture of.—Useful as an outward application for bruises and sprains. See page 80.

Arsenic.—Native doctors are fond of using this poison ; but it requires great care. *Fowler's Solution of Arsenic* is the best form of taking it. The dose for an adult is 5 drops, three times daily in water during or immediately after a meal. It should not be given to children, except under skilful medical advice.

Bael Fruit.—The half ripe fruit is best, and it should be freshly gathered. Valuable for diarrhœa and dysentery.

Bicarbonate of Soda.—Useful in vomiting. Dose 15 to 40 grains in water, for an adult.

Borax.—*Hind.*, Sohaga ; *Tam.*, Venkaram. Useful for sore mouth. See page 21.

Camphor.—*Camphor Water* may be made by putting a few pieces of camphor into a bottle of water, and letting it stand for some hours. From one to two fluid ounces may be taken by an adult. *Spirit of Camphor* is much stronger. *Essence of Camphor* is recommended for cholera. Five drops may be taken in sugar by an adult every 15 or 30 minutes till the diarrhœa is checked.

Castor oil.—This is, in general the best purgative for children and pregnant women. The dose varies from a tea-spoonful to a child, to two table-spoonfuls, the largest dose for an adult. It may be given in milk, strong coffee, pepper water or omum water.

Catechu.—*Hind.*, Kat ; *Tam.*, Katta-Kambu. Useful in diarrhœa unattended by fever. Three or four grains may be given to children. It is an ingredient in cholera mixtures.

Chiretta.—*Tamil*, Nilavembu. Useful as a tonic, or for strengthening the body. Take bruised chiretta one ounce, cold water a pint ; mix for six hours or more, and strain. A drachm of cinnamon or cardamom seeds is an improvement. Dose for an adult from 2 or 3 ounces, three times day.

Chlorodyne, Collis Browne's.—In coughs and colds the dose is from 5 to 15 drops ; in diarrhœa and cholera 15 to 30 drops in a little water. The dose must be proportionally smaller for young children

The bottle should be kept well corked, and be well shaken before a dose is taken. It is a very valuable medicine. A bottle of the smallest size costs about 12 annas or a rupee.

Cholera Pills—These should be obtained from a chemist. In South India “Patterson’s Pills” are largely used. They contain calomel, camphor, and opium, each $\frac{1}{2}$ grain, quinine and acetate of lead 2 grains, aromatic powder 1 grain, acetic acid 1 drop, with enough water to make a pill. In North India a pill containing the following has been found very useful: $1\frac{1}{2}$ grains assafoetida, 1 grain red pepper, $\frac{1}{2}$ grain of opium. One pill to be taken after each loose stool. The following pill is used in the Dindigul Dispensary: $1\frac{1}{2}$ grains acetate of lead, $1\frac{1}{2}$ grains camphor, $\frac{3}{8}$ of a grain of opium; ginger, cloves, and cinnamon powdered, each half a grain, made up with sufficient gum water to form one pill.

Citrate of Iron and Quinine.—This should be obtained from a chemist. Useful as a tonic and to prevent the return of fever. See page 48. Dose for an adult 5 to 10 grains, twice a day or oftener.

Copper Sulphate of.—Also called *Blue Stone*. *Hind.* Nila-tuta; *Tam.* Mayal-tuttam. One grain in one ounce of water applied several times a day is useful in sore eyes, with a copious discharge. In cases of poisoning, &c., 5 grains may be given in a pint of tepid water. It should only be employed when it is important to empty the stomach rapidly. It is also useful, in certain cases, for sores.

Datura.—*Tam.* Umattai. This is a poison somewhat like opium. Applied outwardly it often relieves pain. A datura poultice (page 74) is made by bruising the fresh leaves into a pulp, and mixing them with water and rice flour. For the remedy for datura poisoning, see page 83.

Dill.—*Hind.* Soyah; *Tam.* Shata-kuppi-virai. Useful for relieving flatulency and colic in children. Omum water has the same effect.

Disinfectants.—These are substances which destroy

the cause of infection. Scents may conceal bad smells, but they do not render the air less unwholesome. Dry earth, ashes, and charcoal are the cheapest and most easily procured. The use of burning sulphur is described at page 70. Sulphate of Iron, Condyl's Fluid, Chloride of Lime, and Carbolic Acid are other disinfectants. *Boiling* clothes well also disinfects them. Disinfectants should be regarded as poisons.

Emetics.—These are medicines which cause vomiting. It is often better to get rid of unwholesome matter in this way than to pass it through the bowels. There are various kinds of emetics varying in strength. Unless there is urgency, a large dose should not be given at first, but small doses should be repeated every 10 or 15 minutes. The most common emetics are ipecacuanha, mustard, alum, sulphate of zinc, and sulphate of copper. These are noticed separately.

Enemas.—These denote medicine or nourishment sent up the lower bowel. India rubber bottles for this purpose with a pipe, may be obtained from chemists.* The pipe should be smeared with oil and passed in very gently, inclining to the left. For an infant $\frac{1}{4}$ of an ounce is sufficient. From one year to five years one to three ounces is the proper quantity; from ten to fifteen years, four to six ounces. The injection may be kept in by pressing a ball of cloth on the opening.

Fever Mixture.—This may be made up as follows: Solution of Citrate of Ammonia half an ounce, Nitre 20 grains, Sweet Spirits of Nitre one drachm, Syrup 3 drachms, Water 3 ounces, Mix. Dose one tea-spoonful every second or third hour for a child under six months. Two tea-spoonfuls up to twelve months. A dessert-spoonful up to the second year, after which a table-spoonful in common colds and fevers.

Ginger, Essence of.—This is useful in diarrhœa, flatulence, and colicky pains.

Ipecacuanha.—A foreign medicine useful as an

* Metal syringes are better, but costly.

emetic and in diarrhoea. Ipecacuanha wine is an excellent emetic for children, but it is useless unless it is fresh. The dose is a fluid drachm, repeated every half hour. The powder is also used. .

For dysentery the dose is from a quarter to half a grain every three or four hours. It should be given at as great a distance from meals as possible. Some children bear it badly.

Iron, Iodide of.—A useful tonic. Dose from two to five grains or more.

Iron, Sulphate of.—*Hind.* Hera-kasis; *Tam.* Anna-bedi. Valuable as a tonic and astringent in doses of from one to five grains twice or thrice daily, but less for children. It is also a disinfectant.

Kino.—*Hind.* Palas-ki-gond; *Tam.* Palasha-pishin. This is an excellent astringent, milder than catechu, and more suitable for children. The dose for an adult is from 8 to 20 grains, with a few grains of powdered cinnamon.

• **Laudanum.**—See Opium.

Lime Water.—This is prepared by adding an ounce of slaked lime to half a gallon of water. Slaked lime is obtained by pouring water on newly burnt lime. The bottle should be well shaken for two or three minutes and then allowed to stand till the lime falls to the bottom. It is only the clear water which is used in medicine. It should be kept in a well-stoppered bottle.

Mercury, Ointment of Red Iodide of.—For spleen. See page 49.

Mustard.—Fresh English mustard is an excellent emetic. A full tea-spoonful (piled up) in a tumblerful of warm water generally produces free vomiting; if it does not in 5 or 10 minutes, it may be repeated. Mustard poultices are made by mixing mustard and cold water spread on brown paper or cloth. A piece of thin muslin should be placed between the mustard and the skin. It should generally be removed when it produces redness of the skin. If kept on for 20 or 30 minutes it is apt to cause blisters, difficult to heal. Country mustard may be employed, if English is not

available. Fresh seeds should be obtained, and they should be thoroughly ground down with a little water.

Nim; or *Margosa*.—*Tamil*, Veppam. The bark is an astringent tonic. A poultice of Nim leaves is, in some cases, useful for ulcers.

Nitre, Saltpetre. *Hind.*, Shora; *Tam.*, Pot-luppu. In fever a cooling drink may be made by dissolving 2 drachms of nitre in a quart of thin congee, and sweetening to the taste. Tamarind or lime juice may be added if desired. A cold lotion for the head in fever may be made by dissolving 3 ounces of nitre and an equal quantity of sal-ammoniac in a quart of water. It should be applied by constant relays of freshly wetted cloths.

Opium.—This is a very valuable medicine, but great caution is required in its use. Bazaar opium is generally very much adulterated. *Laudanum* is a Tincture of Opium, very convenient for a small dose or *speedy* action. Infants and young children bear opium badly; 3 drops of laudanum have proved fatal to infants.

The dose of opium for adults varies from a quarter of a grain to 2 grains or more; laudanum, from 5 to 40 drops.

It is not advisable to give either to young children except under medical advice.

Paregoric.—This is useful in colds and coughs, but as it contains a quarter of a grain of opium in every 60 drops, it is to be used with caution in the case of young children.

Dose for adults from 15 drops to 2 fluid drachms.

Quinine.—This is the most valuable remedy for fever yet discovered. To prevent the return of fever, it is given from 3 to 10 grains in repeated doses, or in 20 grains for a single dose, either at the commencement of the attack or at the end of the sweating stage. As a tonic, one to three grains may be given twice or thrice daily shortly before food. The doses for children should be reduced according to their age. Government is endeavouring to supply cheap prepara-

tions to answer the same purpose ; as *Chinchonadine* and *Quinodine*, but the price of Quinine has been greatly reduced of late years.

Sal Ammoniac.—*Hind.* Nousadar; *Tam.* Navacharam. It is sometimes useful in headaches. See page 75.

Santonin.—This is a valuable medicine for worms. See page 71. Dose : For children under 4 years of age, from 2 to 4 grains ; above 12 years from 6 to 8 grains ; with an equal quantity of white sugar or syrup. It should be kept from sunlight.

Sarsaparilla Country.—*Hind.* Hindi-sal-sa ; *Tam.* Nannari-ver. Useful in debility as a tonic. Infuse one ounce of the bruised roots in half a pint of boiling water in a covered vessel for an hour, and strain. The dose for an adult is from 2 or 3 ounces thrice daily. It should be taken warm. Milk and sugar render it like ordinary tea.

Silver, Nitrate of.—Useful for severe cases of sore-eyes. See page 78. It destroys poison in wounds like red hot iron. It should be kept in a dark place, and not be touched with the hand.

Sweet Spirits of Nitre.—It promotes the flow of urine. See page 66. It often relieves flatulency. In many of the diseases of children it is given in repeated doses of 5 or 10 drops in a table-spoonful of sugared water.

Sulphur.—Valuable for the cure of itch. See page 73. It is also a useful disinfectant. See page 70.

Turpentine, Oil of.—Flannel, dipped in warm turpentine, may be used instead of mustard poultices. See page 66. It is also employed to destroy the tape worm. See page 72.

Zinc, Sulphate of.—This is sometimes called White Vitriol. Two or three grains dissolved in water may be given as an emetic to a young child. Double this quantity is required for children over 3 or 4 years of age. It should be repeated every 10 minutes while necessary. It is frequently used as a lotion for sore-

eyes. Two grains in an ounce of water should be dropped in small quantities into the eyes.

DUTY OF EDUCATED MEN WITH REGARD TO SANITATION.

Gross ignorance with regard to the causes of pestilence still prevails throughout this country. The great majority consider it to proceed from the displeasure of demons or gods like Sitala or Mariamman, and that the only way to get it removed is to propitiate them by offerings and ceremonies. Most of the readers of this little book will have a sufficient intelligence to know the erroneousness of the above ideas. They should take every opportunity of enlightening their fellow-townsmen.

Three points should especially be urged ;

1. **Vaccination.**—If properly done and repeated after puberty, this affords almost perfect protection.

2. **A Pure Water Supply.**—The Madras Sanitary Commissioner's Report for 1882 says :

“An improved water supply is the great sanitary need of our Indian Municipal towns. Until the frightful water contamination which at present prevails is overcome, all our other efforts are almost nugatory.” p. 103.

3. **Cleanliness.**—The importance of this has already been strongly urged.

Most towns of any size have now a *Dispensary*. Every large village ought also to have this advantage.

If people are too selfish to care for their neighbours, even for their own sakes and that of their families, they should endeavour to improve the sanitary condition of the place in which they live. Although attention to the rules of health in one's own household is a great safeguard, yet when an epidemic prevails all around, the cleanest homes, may yield their victims.

The very ignorant will laugh to scorn the idea of safety from any other means than ceremonies ; but in every community there will be some of greater

intelligence, and if educated men take up the matter in an earnest, conciliatory, wise manner, their efforts, after a time, will be crowned with success, and they will be a blessing to the town or village in which their lot has been cast.

SPIRITUAL HEALTH.

This is much more necessary even than bodily health. Children soon show that they are subject to sickness. At an early period they also give sad proofs of having a sinful nature. Young children that can hardly speak sometimes display their anger and passion by trying to beat their mothers. Even when they grow up they are ready to fall into evil ways, and the greatest care is required in order that they may become wise, happy and useful.

The second part of this little work treats of the **TRAINING OF CHILDREN**. Parents are recommended to study this division still more carefully than the remarks about bodily health.

Prayer during Pestilence.

Heavenly Father, God of the spirits of all flesh, to whom can we flee for help in trouble but unto Thee?

Sore sickness has come among us. We acknowledge the justice of the chastisement. We have often forgotten Thee, the Giver of all good; we have disobeyed Thy commands, and continued in our evil ways heedless of Thy displeasure.

Yet, spare us, good Lord. In the midst of deserved wrath, remember mercy. If it be Thy holy will, speedily remove disease from our midst. Save us from the pestilence that walketh in darkness, and from the destruction that wasteth at noon-day. Grant, also, that when Thy judgments are abroad in the earth, the people may learn righteousness.

Do Thou, who never slumberest nor sleepest, graciously watch over us this night. Suffer no evil to befall us, nor any plague to come nigh our dwelling.

May each of us be enabled to say, "I will both lay me down in peace and sleep; for Thou, Lord, only makest me dwell in safety."

Prayer for a Sick Child.

Our Father in heaven, we worship Thee as our Creator and Preserver. Thy hands did make and fashion us. By Thee have we been upheld from our birth even until now. Every blessing we possess is Thy gift.

We received from Thee the child who is now suffering. We thankfully acknowledge Thy goodness to him (or her) during the time that is past. If it be Thy pleasure, bless the means for his recovery and remove this sickness.

We confess that we deserve nothing at Thy hand. We have enjoyed Thy bounties, but our hearts have not risen in gratitude to Thee the Giver. We have broken, times without number, Thy laws which are holy, just, and good. We have no plea in ourselves; but Thou art an Ocean of mercy. May it please Thee to send an answer of peace, and grant that the life which has been preserved may be spent in Thy service.

Christians confess that they are sinful and unworthy of themselves to ask any blessing from God. Hence their offer their prayers in the name of the Lord Jesus Christ, the incarnate Son of God, who died on the cross for man's salvation. The name of Christ has not been used in the prayers, as most people of this country do not yet acknowledge Him. All should learn about the religion which is professed by the greatest and most enlightened nations of the world. A list of some books which may be read is given on the last page of the wrapper.

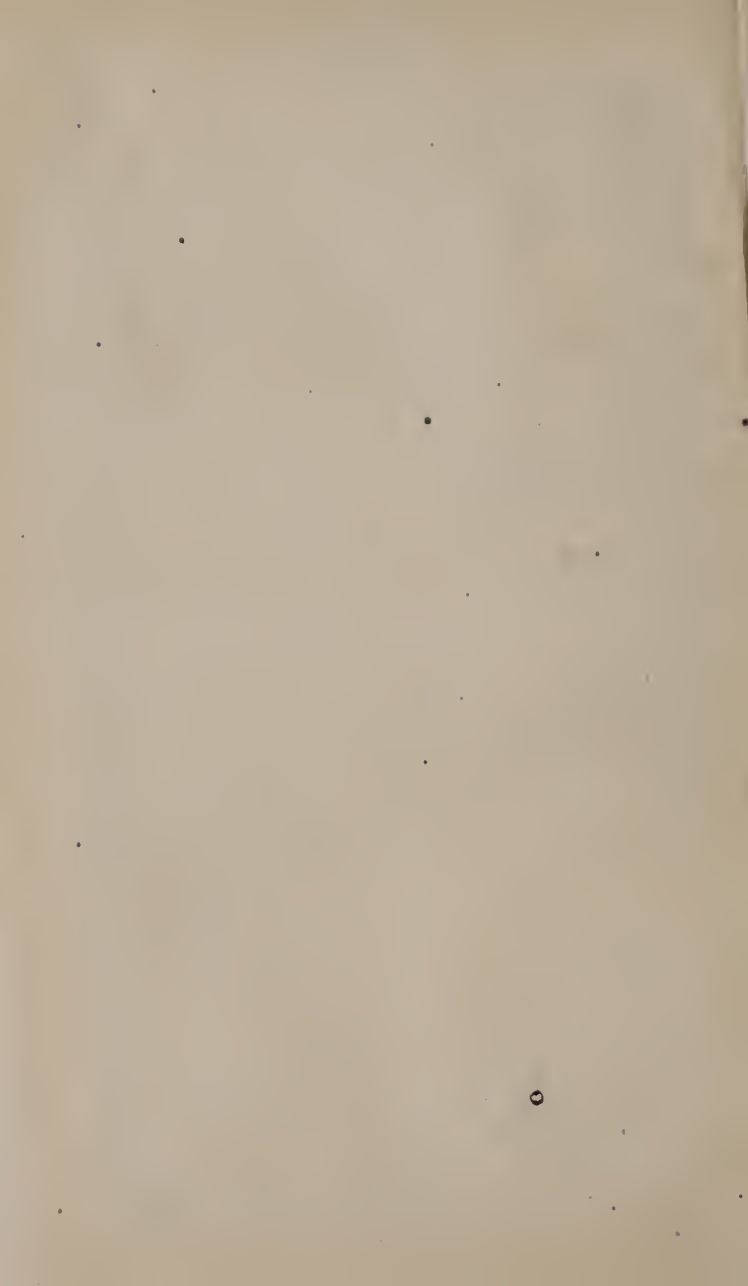
INDEX.

	<i>Page</i>
Abscess	73
Accidents	79
Ague	46
Alum	86
Ammonia, Aromatic Spirit of	86
Anæmia	49
Arnica, Tincture of	86
Arsenic	87
Bael fruit... ..	87
Bath, Cold, in fever	43
Bathing and Washing	11,27
Bee stings	84
Bicarbonate of Soda	87
Bites of Animals	53
Bleeding	79
Boils... ..	73
Borax	87
Bronchitis	59
Bruises	80
Burns and Scalds	80
Camphor	87
Carbolic Acid... ..	89
Carbuncles	73
Carron Oil	80
Castor Oil	87
Catechu	87
Chicken-Pox	57
Chiretta	37
Chlorodyne	87
Choking	81
Cholera	63
Cholera Pills	88
Citrate of Iron and Quinine	88
Cold	58
Colic	20
Constipation	19,61

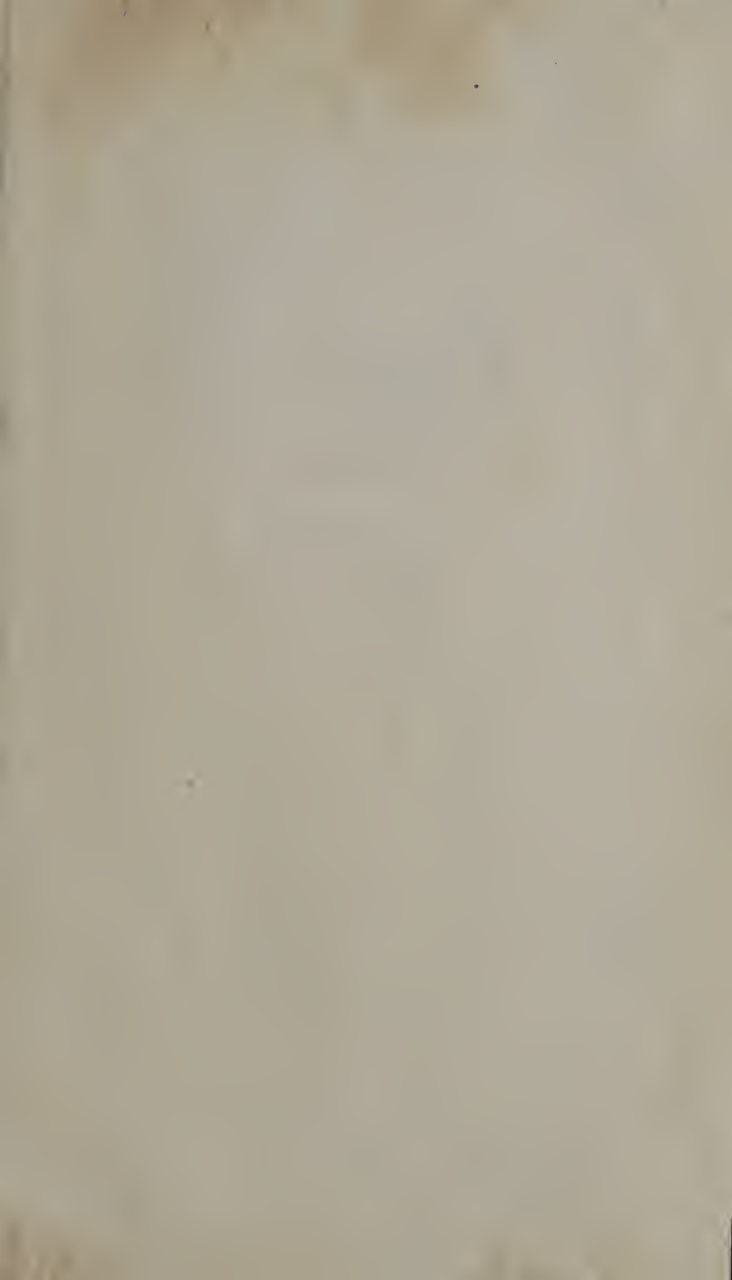
	<i>Page</i>
Continued Fever, Simple	45
Convulsions	16, 20
Copper, Sulphate of	88
Cough	59
Croup	57
Datura	88
Diarrhœa	18, 61
Dill	88
Disinfectants	88
Dislocations	81
Doses for Children	86
Dress	12, 26
Drowning	81
Dysentery	63
Ear, Diseases of the	78
Emetics	89
Enemas	89
Eruptions	16
Eruptive Fevers	45
Exercise	14, 28
Eyes, Sore	77
Fainting	76
Feeding Babies	8
Fevers, Classification	45
——General Treatment	43
——Continued	48
——Eruptive	54
——Intermittent or Ague	46
——Mixture for	89
——Remittent	52
——Scarlet...	55
——Typhoid or Enteric	53
Flatulency	20
Food	23
Fractures	82
Germ Theory of Disease	36
Ginger, Essence of	89
Gripping and Wind	20
Guinea Worm	72

	<i>Page</i>
Headache	75
Health, Preservation of	22
Hooping Cough	60
Houses	31
India, Disease in	35
Infancy, Management of	6
Infantile Ailments	18
Intermittent Fever	46
Ipecacuanba	89
Iron, Iodide of	90
———Sulphate	90
Itch	72
Kino	90
Light	26
Lime Water	90
Mad Dogs, Bites of	83
Malaria	49
Measles	54
Measures and Weights	85
Medicines	18, 86
Mercury, Ointment of Red Iodide of	90
Milk	9
Mortality among Infants	2
Mothers, Management of	6
Mustard	90
Native Doctors and Medicines	42
Nim or Margosa	91
Nitre	91
Nurse, Selection of Wet	9
Ophthalmia	77
Opium	91
Pain, Uses of	34
Paregoric	91
Poisons	82
Prayers for the Sick	94
Quinine	91
Remittent Fever	52
Sal Ammoniac	92
Santonin	92

	<i>Page</i>
Sarsaparilla, Country	92
Scarlet Fever...	55
Sick, Care of the	39
Sickness, Signs of	38
Silver, Nitrate of	92
Sleep	11, 30
Small-pox	55
Snake Bites	83
Spleen	49
Stings of Scorpions and Insects	84
Suckling	8
Sulphur	92
Sunstroke	75
Superstitious Practices	42
Sweet Spirits of Nitre	92
Teething	15
Thrush	21
Turpentine; Oil of	92
Ulcers	73
Vaccination	13, 56
Wasting	21
Water	22
Wax in the Ear	78
Weaning	17
Weights and Measures	85
Worms	70
Wounds	84
Zinc, Sulphate of	92







PAPERS ON INDIAN REFORM.

IS INDIA BECOMING POORER OR RICHER? WITH REMEDIES FOR THE EXISTING POVERTY. 8vo. 84 pp. 2½ As. Post-free, 3 As.

The prevailing idea with regard to the increasing poverty of India shown to be incorrect, and the true means of promoting its wealth explained.

ON DECISION OF CHARACTER AND MORAL COURAGE. 8vo. 56 pp. 1½ As. Post-free, 2 As.

A reprint of Foster's celebrated Essay, with some remarks on its application to India.

DEBT AND THE RIGHT USE OF MONEY. 8vo. 32 pp. 1 An. Post-free 1½ As.

Prevalence of Debt in India; its Causes; Evils; how to get out of it; with Franklin's Way to Wealth, &c.

CASTE. 8vo. 66 pp. 2 As. Post-free, 2½ As.

Supposed and real origin of Caste; Laws of Caste according to Mann; its Effects; Duty with regard to it.

THE WOMEN OF INDIA AND WHAT CAN BE DONE FOR THEM. 8vo. 4 As. Post-free, 5½ As.

Women in Hindu literature; Female Education; Marriage Customs; Widow Marriage; means to be adopted to raise the position of Women.

RELIGIOUS REFORM.

POPULAR HINDUISM. 96 pp. 2½ As, Post-free, 3½ As.

Review of the Hinduism of the Epic Poems and Puranas, &c.; Rites and Observances; Effects of Hinduism, and Suggested Reforms.

PHILOSOPHIC HINDUISM. 72 pp. 2½ As. Post-free, 3 As.

The Upanishads; the Six Schools of Hindu Philosophy; the Minor Schools; Doctrines of Philosophic Hinduism; the Bhagavad Gita; Causes of the Failure of Hindu Philosophy, &c.

VEDIC HINDUISM. 100 pp. 3 As. Post-free, 4 As.

Divisions of the Vedas; Hindu accounts of their Origin; Social Life in Vedic Times; the gods of the Vedas; the Offerings and Sacrifices of the Vedas; Specimens of Rig-Veda Hymns; Extracts from the Brahmanas; &c.

THE BRAHMA SAMAJ AND OTHER MODERN ECLECTIC RELIGIOUS SYSTEMS. 108 pp. 3 As. Post-free, 4 As.

Modern Hindn Theism; Rammohun Roy; Debendranath Tagore; Keshub Chunder Sen; the Sadharan Brahmo Samaj; Madras Brahmoism; Prarthana Samajes; Brahmist Doctrines and Prospects; Portrait of Keshub Chunder Sen.